

IRON AGE



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"GOOD EQUIPMENT MAKES A GOOD FARMER BETTER"

IRON AGE

Implements

for

Farm, Garden and Orchard

Garden Seeders

Wheel Hoes

Hand and One-Horse Fertilizer Distributors

Cultivators

Horse Hoes

Harrows

Potato Planters

Potato Diggers

Vegetable, Sugar Beet and Alfalfa Sprayers

Two-Wheel Power Sprayers

Four-Wheel Orchard Power Sprayers

Cotton Planters

Duplex Planters

Corn, Pea and Bean Planters

Two-Horse Fertilizer Distributors and Row Makers

Manufactured by

Fred. H. Bateman Company

Philadelphia, Pa.

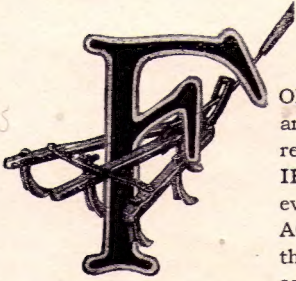
Successor to

STEPHEN BATEMAN
1836-1863

E. S. & F. BATEMAN
1863-1893

BATEMAN MFG. CO.
1893-1923

Garden Tools



FOR over 86 years the Bateman Companies have made garden tools, and, since the time of the small cultivator shown here, have been recognized as pioneers in this particular class of implements. Although IRON AGE farm implements are of many kinds and are used in almost every quarter of the earth, it is nevertheless true that the name IRON AGE is perhaps most widely known because of the garden tools. For this reason, and for no other, they are given front position in this catalog. This does not mean, necessarily, that they dominate our other lines, profitable and efficient though they be.

For the dealer, IRON AGE Garden Tools present many features of great advantage. They have the name and the reputation. They are known and depended upon by thousands of gardeners everywhere. They represent a line of merchandise that is sold largely for cash or on short time, and the sales are fast and easy.

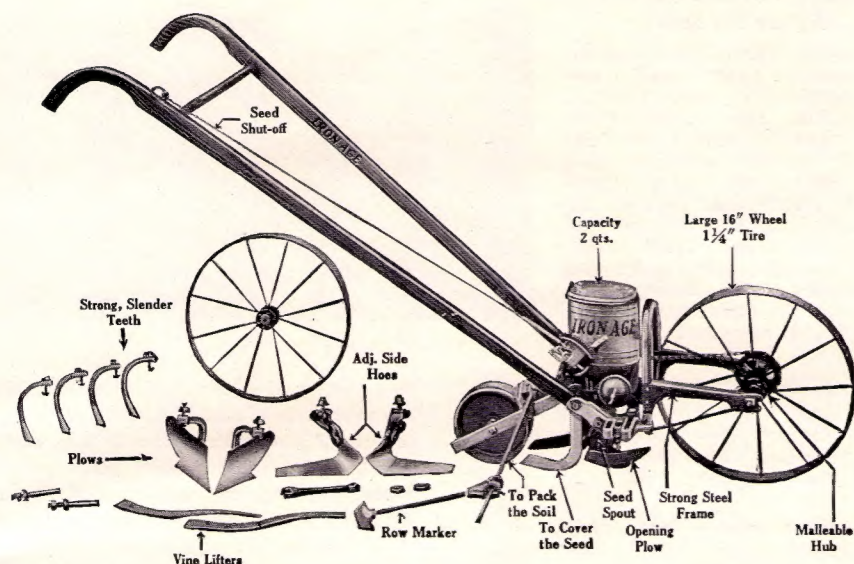
IRON AGE Garden Tools are **more** than compact. They are actually so designed that any dealer may have on hand an astonishing array of different styles of tools with only a very little investment or space allotment. This is well illustrated by the possibilities of the representative purchase shown in the picture below, and it is well worth while for the merchant to consider the matter carefully.

In these three small boxes, containing a No. 301 Wheel Hoe, a No. 320 Wheel Hoe and a Fig. 334 Seeding Attachment, are all the parts necessary to make any of the following numbers:

- No. 306 Hill and Drill Seeder, Double and Single Wheel Hoe.
- No. 301 Double and Single Wheel Hoe.
- No. 303 Double and Single Wheel Hoe with side hoes only.
- No. 313 Double and Single Wheel Hoe with side hoes and teeth only.
- No. 314 Same as No. 306 with side hoes and teeth only.
- No. 315 Combined Single Wheel Hoe, Hill and Drill Seeder.
- No. 316 Hill and Drill Seeder only.
- No. 320 Single Wheel Hoe.
- No. 321 Single Wheel Hoe with side hoes only.



The No. 306 Combined Hill and Drill Seeder, Double and Single Wheel Hoe



The No. 306 is unquestionably the most useful tool ever invented for the garden grower. In almost constant use from the earliest days of Spring until the frosts of Autumn finally close the doors against further tillage, it takes over the hard, back-bending work and multiplies the worker's time ten-fold. As for efficiency—the amount of work done for the effort expended—there is probably no other tool in the world that equals it. Every man who works a piece of ground needs one. Specialists, such as seed growers, nurserymen, florists, dairymen, poultrymen, onion growers, etc., use them in large numbers. It is the first tool that every merchant serving this great market should stock. Although a combined tool, not a single point of advantage is lost when it is used, either as a seeder or as a double or single wheel hoe.

This tool is both a planter of garden seeds and a double and single wheel hoe. As a seeder it sows either in hills or drills and combines the entire job into one operation. It opens the furrow, sows the seed, covers it, packs the soil with a roller and marks the next row. As a **HILL SEEDER**, it will drop in hills, 4, 6, 8, 12 or 24 inches apart. The change from hill to drill seeder is made instantly by merely throwing lever shown in

Fig. 334, and a **HILL SPACING PLATE**, also shown in Fig. 334, regulates the various distances by pins placed in holes at outer edge of wheel.

The No. 306 will sow with the greatest accuracy and dependability seeds of widely different character, such as the following:

Vegetable—Asparagus, Beet, Cabbage, Carrot, Cauliflower, Celery, Chicory, Cucumber, Endive, Kale, Leeks, Lettuce, Mangels, Okra, Onions, Parsley, Parsnips, Peas, Pepper, Radish, Rice, Sage, Salsify, Savory, Spinach, Tomato, Turnip, etc. **Fruit Seeds**—Apple, Pear, Cantaloupe, Melon, etc. **Also**, Tobacco and Flower Seeds.

The amount of seed to be sown is regulated by a seed slide and adjustable index with the names of the various kinds printed on it. This, of course, is merely suggestive, and is subject to the desires of the planter himself.

Seed sowing in full view. With the **IRON AGE** there can be no doubt about the seed being deposited in the soil, for the man at the handles can see every seed as it drops into the furrow.

No. 306 Combined Hill and Drill Seeder, Double and Single Wheel Hoe (Continued)

The IRON AGE Does Not Injure the Seed

For many years this machine has been preferred by experienced gardeners because of its famous **BRUSH AGITATOR**. The operation of this Brush Agitator, made of carefully selected bristles, separates seed which cling together and provides a **FORCE FEED** that sows all the seed with great accuracy, even to the smallest packet. The **CAPACITY** of the hopper is two quarts, and the accuracy of the planting is not affected by the quantity of seed in the hopper at any time.



A **SHUT-OFF**, located on the right handle, enables the operator to instantly stop the flow of seed at end of rows or when moving from place to place. This shut-off cannot be jammed by falling seed.

Steel Belt Chains are furnished on all drills and provision made for adjustment. **The Opening Plow** is adjustable as to depth. It opens the furrow and keeps the seed in a narrow, straight row. **Steel Coverers** close the furrow immediately after the seed is sown. A wide, concave **Packing Wheel**, carrying a large part of the weight of the tool, packs the soil above the seed. **The Row Marker** may be thrown over to either side, marking rows up to 20 inches apart.

In its design and construction, the **IRON AGE** possesses advantages not approached by

any other tool of the kind. The **FRAME** is made entirely of steel and malleable iron, the wheels of steel with malleable hub, and the handles of natural-finished hardwood. The wheels are large and easy-running, 16 inches in diameter and with a wide, 1¼-inch tire. The handles are adjustable as to height, attached securely to the frame, and have the full-shaped, natural, comfortable, plow-handle grips always preferred by the experienced user. The tool, as a whole, is very attractive in appearance, finished in black and green, pleasingly striped, and with the handles varnished in natural grain.

Fig. 560, the attachment shown on page 15, used with this machine makes an ideal combination for the planting of corn, peas, beans, lima beans, etc. This attachment, Fig. 560, has a plate feed which is desirable for large, odd-shaped seed.

The No. 306, by the mere loosening of a couple of bolts and removal of the seed attachment, and sprocket on the wheel, becomes a **Wheel Hoe** of many uses. As a **Wheel Hoe** it is known as No. 301, and for a full description of the tool as such the reader is referred to the following pages describing the No. 301.

In addition to the uses given here and under the description of No. 301 on the next page, the reader is also referred to page 15, on which are shown a large number of adaptations of the tool and special attachments of great usefulness.

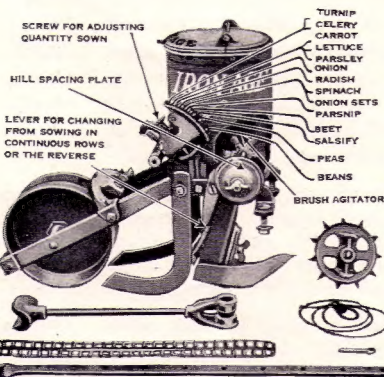


Fig. 334. Hill and Drill Seeder Attachment for Nos. 301 and 320, 306, 315, 316

No. 301 Double and Single Wheel Hoe

The No. 301 is the wheel hoe form of the No. 306 combined tool shown on preceding pages. By merely removing the Seeder Unit, Fig. 334, and using, instead, some of the attachments shown in the cut or on page 15, the No. 306 becomes a cultivating or soil-working tool of the widest usefulness. The tool may be bought in the wheel hoe form by ordering No. 301 and later made into a No. 306 merely



No. 301

No. 303. Same with side hoes only and without vine lifters

No. 313. Same, without plows, with side hoes and teeth only

by ordering the Fig. 334 seeder attachment.

As either a Double or Single Wheel Hoe it may be changed from one form to the other very easily and quickly. When the plants are young, the Double Wheel Hoe should be used

astride the rows, permitting very close cultivation. Later, by merely putting in the long axle and using one of the wheels in the middle of it, you can have a single hoe for working between the rows.

This tool will open furrows for manure, for planting potatoes, etc., and close them with the same plows, reversed, after the planting. Crops may be ridged, hoed and cultivated; the soil may be weeded, leveled and pulverized, all in a fraction of the time ordinarily required. The growth of a garden may be tremendously improved by the frequent use of the hoes, keeping down the weeds, giving light and air to the plants and providing a fine dust mulch on the surface which prevents evaporation of moisture from the soil.

The Four Cultivator Teeth may be used for either deep or shallow cultivation, for marking out for onion sets and other plants and for working very narrow rows. **The Leaf Lifters** may be used either with the single or the double wheel form. These attachments are very valuable for working crops like peas, beets or strawberries when the foliage would otherwise make such work difficult.

The frame of the No. 301 is painted green and black and is handsomely striped. The wheels are of steel, 16 inches in diameter and $1\frac{1}{4}$ inches in width across the tires. The malleable hubs are strong and durable. The handles are hardwood, straight-grained and finished in natural wood. The handle grips are the same easy, comfortable, full-bent plow-handle shapes for which the IRON AGE has long been noted. The tools are polished and lacquered.



Cultivating between rows with the Single Wheel

No. 301 Double and Single Wheel Hoe (Continued)

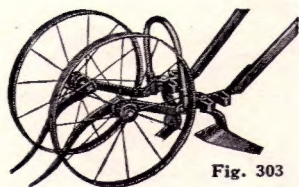


Fig. 303

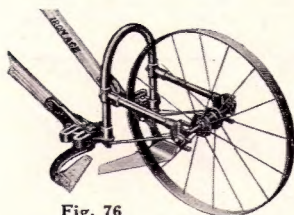


Fig. 76

We show here six of the most common uses of the No. 301 Wheel Hoe. Figs. 303 and 76 show the scuffle hoes on both the double wheel and single wheel combinations. As shown here, the hoes on the double wheel tool are set to work up closely to the plants as the tool runs astride the row. On the single wheel tool the same hoes are set to run between narrow rows. With the hoes turned inwards in this manner, but on the double hoe, the tool is used for gathering spinach, onions, etc.

Figs. 312 and 315 show the same tool, but with the cultivating teeth in use. Fig. 313 is the single wheel form with the plows set for trenching or furrowing. After the manure, potatoes, or whatever is intended, is put into the furrow, the other wheel may be added and the plows reversed as shown in Fig. 311. This will throw the earth back into the furrows.

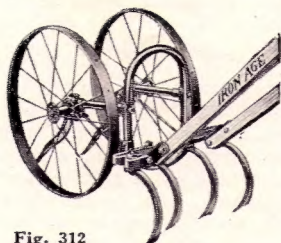


Fig. 312

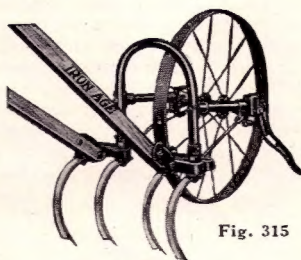


Fig. 315

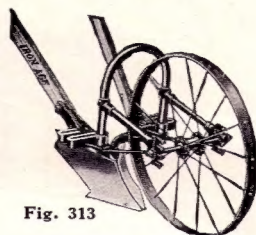


Fig. 313

We call special attention to the fact that these plows are adjustable in pitch, as well as width, which is an exclusive IRON AGE patented feature.

On page 15 the reader will find a number of attachments made to fit this tool. Note especially Fig. 560 for planting of such difficult seeds as corn, peas, beans, lima beans, etc.

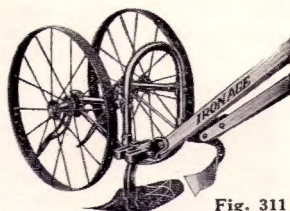
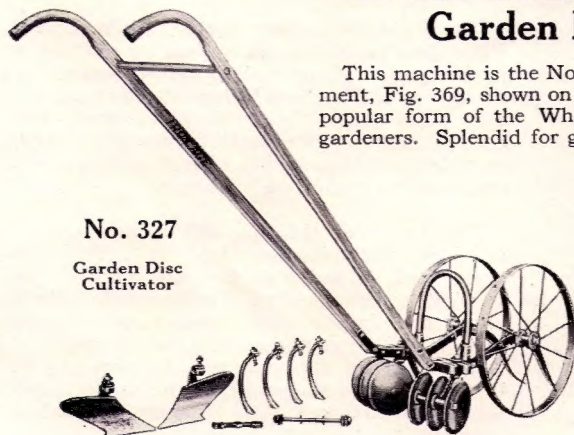


Fig. 311

No. 327 Double and Single Wheel Garden Disc Cultivator



No. 327

Garden Disc
Cultivator

This machine is the No. 301 furnished with the Disc Attachment, Fig. 369, shown on page 15, instead of the hoes. A very popular form of the Wheel Hoe, and especially so to market gardeners. Splendid for general use, but not recommended for sticky, very stony or trashy ground. The discs may be set either way, throwing the soil either to or from the rows, and used either astride or between the rows. The discs are detachable, and may be used three, two or one on a side, to suit width of rows. Changes easily and quickly made, and the angle adjusted as desired. Anyone already possessing a No. 301 or a No. 320 may have this combination by obtaining the Fig. 369 attachment shown on page 15.

No. 315 Combined Hill and Drill Seeder and Single Wheel Hoe



No. 315

Hill and Drill Seeder and
Single Wheel Hoe

A combination tool that suits the man who needs a single wheel hoe only. Performs a complete seeding operation, opening the furrow, dropping the seed either in hills or drills, covering it, packing the soil and marking the next row. With it any of the seeds listed on page 3 may be planted. By means of the hill-spacing plate on right-hand side of seeder, seed may be sown in hills 4, 6, 8, 12 or 24

inches apart. Change from hill to drill seeding is made merely by throwing upper lever shown in cut of the Fig. 334 into notch in lower lever. The seeder is of the force-feed type, using the well-known IRON AGE brush agitator. This agitator never injures the seed, and sows all of it even down to the smallest packet. Capacity of hopper, two quarts. Shut-off on right handle enables operator to cut off flow of seed at any time, such as at ends of rows. The dropping seed is in full view of the operator. The opening plow is adjustable for depth and keeps seed in a narrow row. The amount of seed to be sown is regulated by a seed slide and an adjustable index. The next row can be marked up to 20 inches on either side.

This is a staunch, reliable, all-season machine, serving every garden purpose all summer long, except that it is made to cultivate *between* rows and will not cultivate astride the rows as a two-wheel tool will do.

Most of the attachments shown on page 15 can be used with this tool, giving it an extremely wide degree of usefulness. The Corn, Pea and Bean Seeder Attachment shown as Fig. 560, page 15, may be applied to the frame of this tool; also Fig. 84, the weeder attachment shown on page 10.

The cultivating tools furnished consist of a Landside Plow, two Side Hoes and three Cultivator Teeth; also a Leaf Lifter.

The frame is made of malleable iron and steel, unbreakable. The wheel is 16 inches in diameter, with a $1\frac{1}{4}$ -inch tire. The handles are straight-grain hardwood, with plow-shaped grips. Frame and parts painted green and black and attractively striped. Handles, natural wood, varnished.



No. 316 Hill and Drill Seeder



No. 316

Hill and Drill Seeder only

Frequently the No. 315 as shown on the preceding page is desired only for the sowing of seed; that is, without the cultivating tools. When wanted only as a hill and drill seeder without the extra tools it may be so obtained by ordering as No. 316.

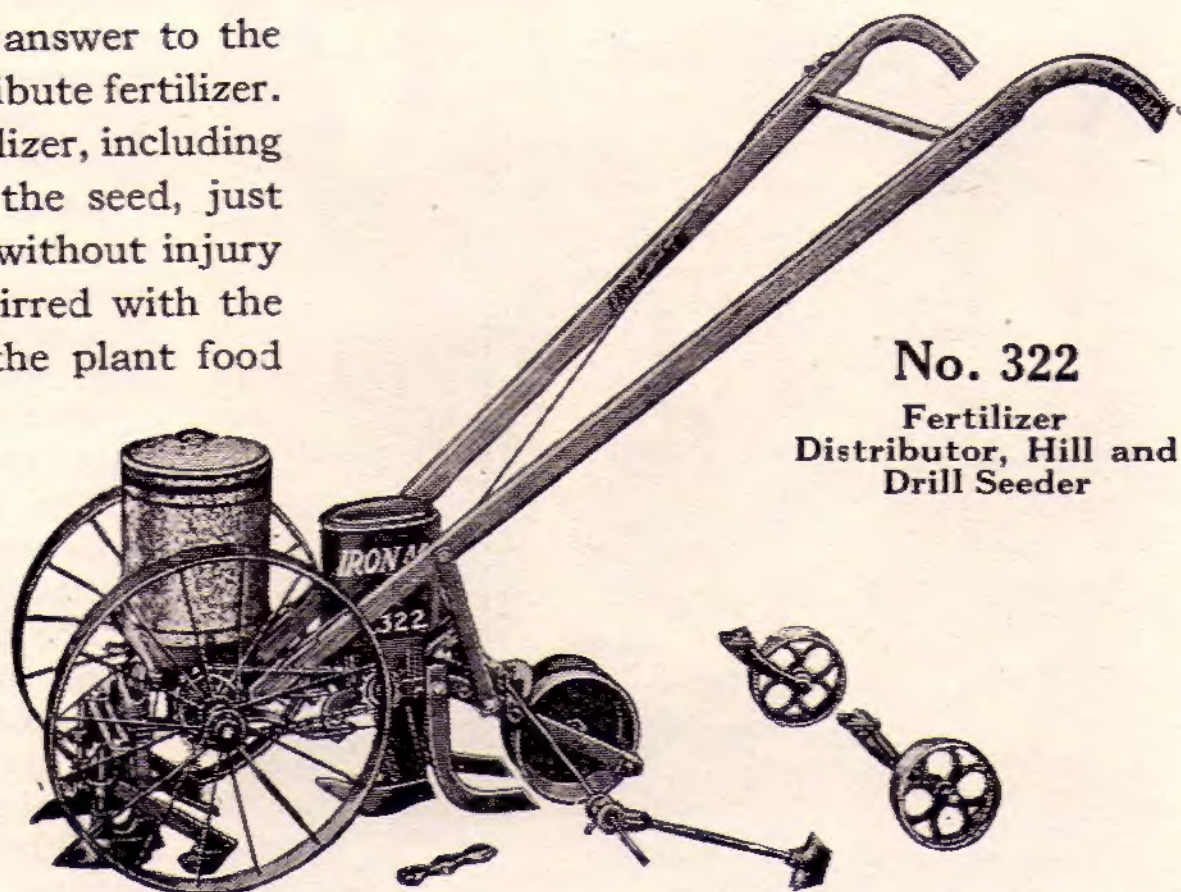
The No. 316, which is illustrated above, is identically the same in every detail as the No. 315 except that it is without the wheel hoe tools. If, however, at any time in the future the wheel hoe tools are desired, they

may be obtained and used the same as though ordered in the first place.

In its seeder form (No. 316) this implement is extensively used by market gardeners and is the lowest priced hill and drill seeder of the IRON AGE family. It lacks nothing in strength, quality of work, or in any other detail except that it cannot be used as a double wheel tool and does not have the same selection of tools as some of the other IRON AGE garden makers.

No. 322 Combined Fertilizer Distributor, Hill and Drill Seeder

This combined tool is the correct answer to the gardener's question as to **how** to distribute fertilizer. It applies all kinds of commercial fertilizer, including nitrate of soda, along each side of the seed, just where it will do the most good, and without injury to the seed. So placed, it can be stirred with the soil at each cultivation and all of the plant food made available. Very much better than placing the fertilizer under the seed where it cannot be stirred, and where it may do injury to the seed or plant. The flow of fertilizer is regulated by a gate, adjusted by thumb-screw, and is divided in the spout, at the discharge opening, into two streams. Either one or both of



No. 322

Fertilizer
Distributor, Hill and
Drill Seeder

No. 322 Combined Fertilizer Distributor, Hill and Drill Seeder (Continued)

the two opening plows may be used. Also adjustable for width and depth. The brass wire distributing tubes are flexible to meet necessary adjustment of the plows. These tubes will not rust, and other parts likely to corrode are galvanized. Fertilizer hopper holds four quarts.

The Hill and Drill Seeder Attachment, Fig. 398, is similar to the seeding attachment used on the Nos. 306 and 315 except for the construction changes necessary to attach and operate it on the No. 322. It is a complete seeder within itself, opening the seed furrow, planting the seed, covering it, packing the soil and marking the next row. Sows either in a continuous drill, or in separate hills at 4, 6, 8, 12 or 24 inches apart. The wheels are of steel, 16 inches in diameter and with $1\frac{1}{4}$ -inch tires. The hubs are malleable.

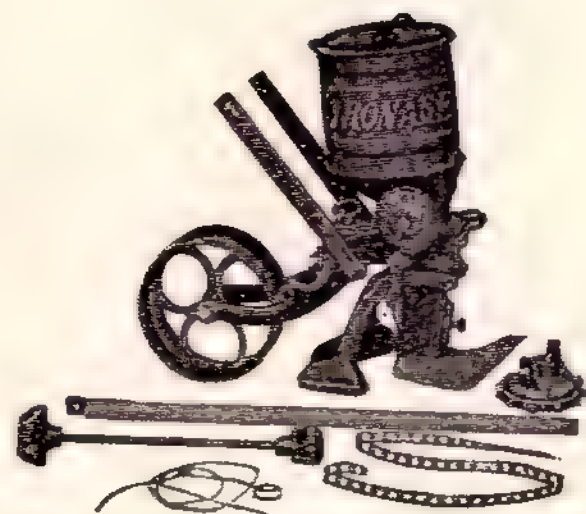


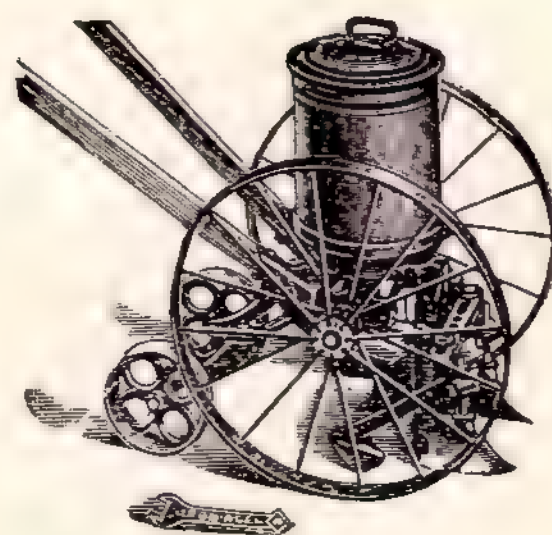
Fig. 398. Hill and Drill Seeder Attachment

No. 323 Fertilizer Distributor

Exactly the same tool as the No. 322, except that it does not have the Hill and Drill Seeder, and uses, as a rear support, a small two-wheeled truck.

The Fertilizer Distributor has two opening plows, adjustable for depth and width. The fertilizer may be placed as near the seed as you wish or in the same line with the drill. One or both of the opening plows may be used. Flexible Coverers follow the plows.

A tool of immense value to the gardener for side-dressing with quick-acting fertilizers. Very pleasing results may be obtained by applying only a portion of the fertilizer in the row at the time of planting, and later using this



No. 323 Fertilizer Distributor

tool for side-dressing the crop with a quick-acting fertilizer such as nitrate of soda.

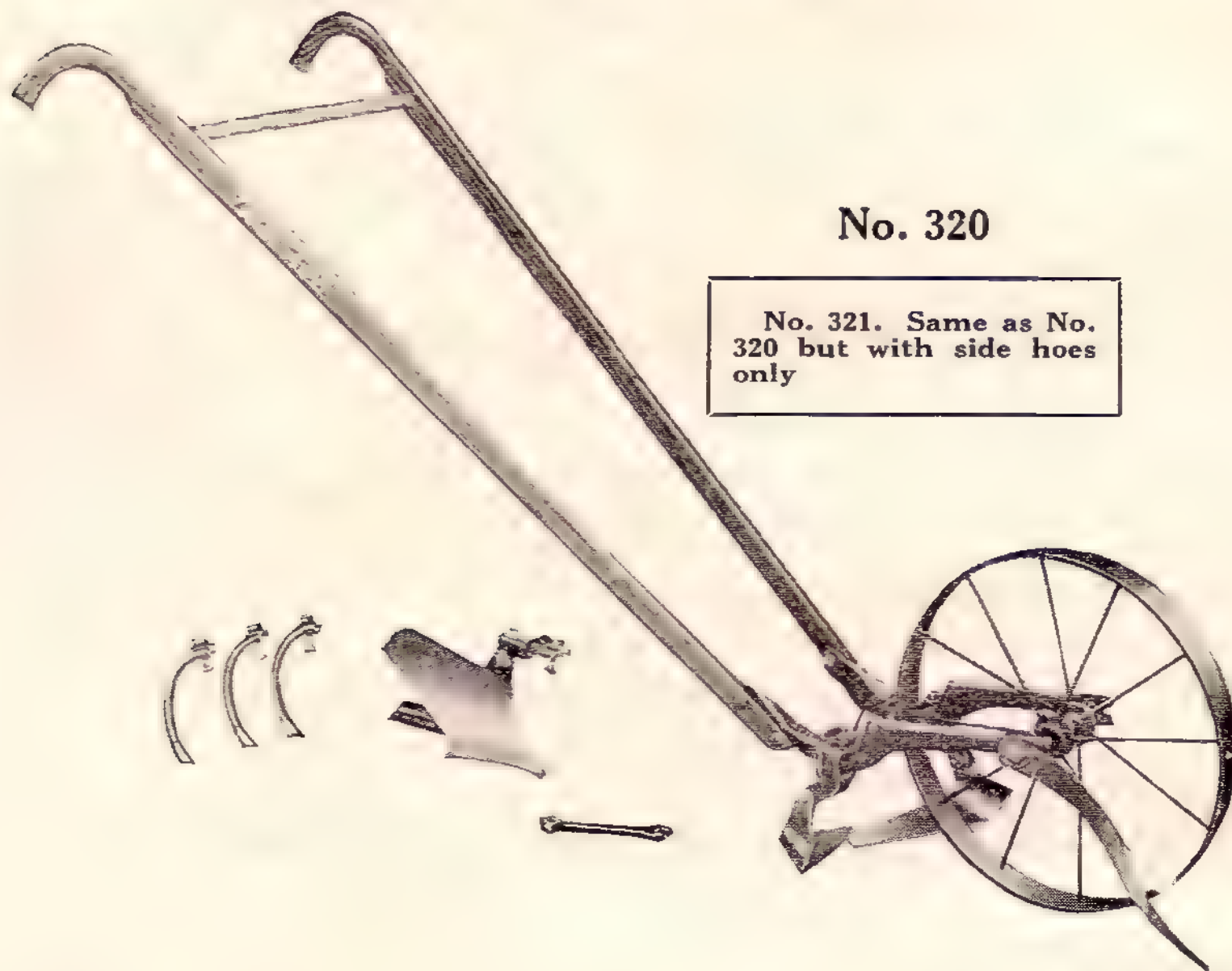
This tool may be purchased in this form and the Hill and Drill Seeder Attachment, Fig. 398, added later when needed. Cultivating tools cannot be used.

A tool of very strong and durable construction, one that has been notable in the IRON AGE line for many years. The hopper is made of heavily galvanized steel and has a capacity of four quarts. All parts attractively painted and striped. Handles, hardwood, with plow-shaped grips; natural wood, varnished.



Distributing the fertilizer and sowing the seed all in one operation with No. 322

No. 320 Single Wheel Hoe



No. 320

No. 321. Same as No. 320 but with side hoes only

This tool is the wheel-hoe form only of the Nos. 315 and 316 Combined Hill and Drill Seeders shown on pages 7 and 8. A strong, durable tool, lower in price and lighter in weight than our No. 301. It will do all of the between-the-row cultivating, furrowing, ridging, weeding, leveling, etc., required in any home or market garden. The wheel is of steel, 16 inches in diameter, with a $1\frac{1}{4}$ -inch tire. It is attached by means of two very strong and rigid steel arms to the main frame of malleable iron. The tools consist of a pair of side hoes, a landside plow and three cultivator teeth. The handles are of hardwood, long, strong and shaped for easy working. The grips are bent like plow handles and fit the hand naturally without cramping or tiring. Painted in black and green, attractively striped. Handles varnished, natural. Tool faces polished and lacquered.

All tools are adjustable for position upon the frame for close or wide cultivating, and the handles are adjustable for height.

When wanted with Side Hoes only, without Vine Lifter, Landside Plow and Cultivator Teeth, order as No. 321.

The Hill and Drill Seeding Attachment, Fig. 334, shown with the No. 301, may be added to this tool at any time, making a complete tool, No. 315. Fig. 560, Corn, Pea and Bean Attachment, can also be applied, as well as Figs. 33, 84, 170 and 369, shown on page 15.

Fig. 84, Single Weeder Attachment

This attachment pulverizes the soil and destroys the weeds just as they come through the ground. One or more teeth can be removed if necessary to work in narrow spaces.



Fig. 84
Single Weeder
Attachment

Will you please mail me a catalog of your Iron Age tools? I bought one about ten years ago. I used it every season on my home garden until a year ago, when I yielded to the wishes of a neighbor to let him have it. He paid me what I paid for it ten years ago, but I have been kicking myself ever since. He used it on a big beet crop. It was apparently as good as the day I bought it. I did not buy the seeder with it, as my garden was not large enough for that, but at the same time I think a good thing. This machine is a good advertisement when one is told the age of it and notes its appearance.

Bow, Wash., May 1st, 1925.

JAMES W. TARTE

IRON AGE "New Model" Garden Seed Drill

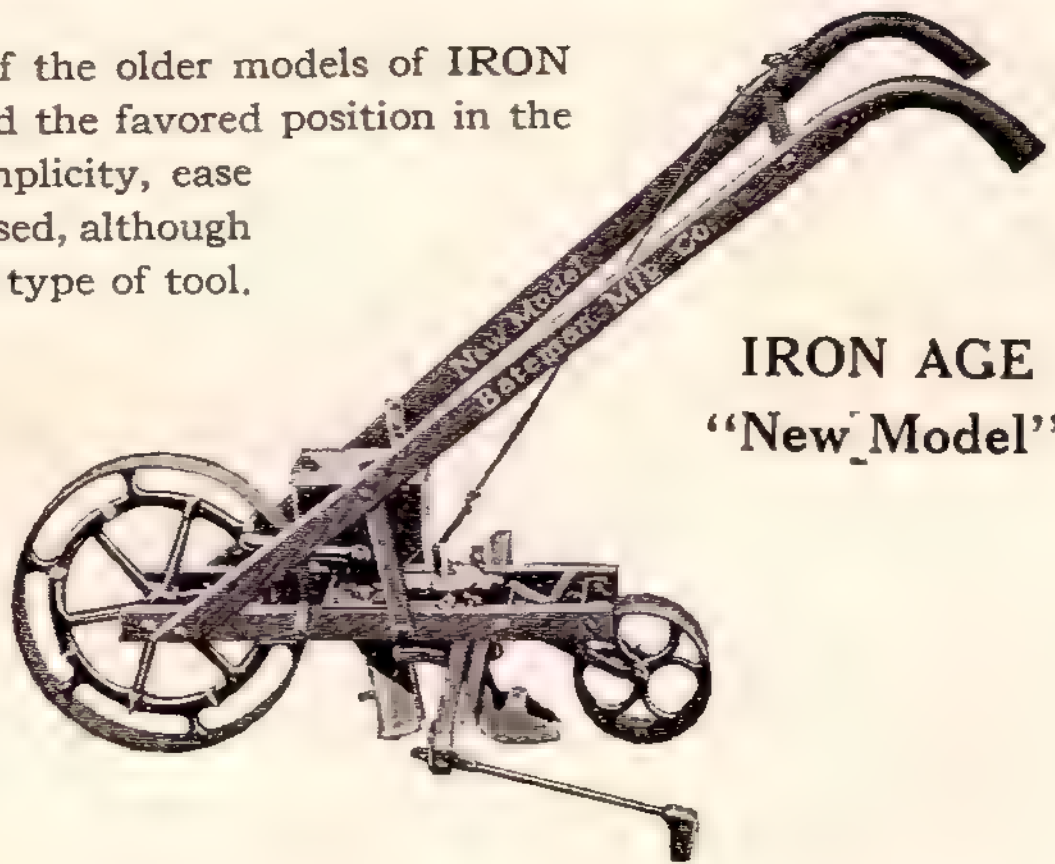
The "New Model" Seed Drill is one of the older models of IRON AGE Garden Tools that continues to hold the favored position in the regard of thousands of gardeners. In simplicity, ease of action and dependability it is not surpassed, although it is not interchangeable into a wheel-hoe type of tool.

The principle of operation of this tool is radically different from the other IRON AGE seeders, operating, as it does, by means of teeth or snubbers on the main wheel instead of a chain. The operations performed by this tool are similar to those of the other seeders—opening of the furrow, dropping the seed, covering it, packing the soil and marking the next row. It will plant with accuracy all the different kinds of seed listed on page 3.

The seed discharge of this tool is regulated with great exactness by means of an eccentric index or indicator which adjusts the slide for the seed, opening exactly where you want it. The index is in plain sight when the tool is in operation—the names of the principal seeds are shown on it—and no reference table is necessary. Although this index is provided, each man may adjust it either ahead of or after the mark, according to his preference for sowing. He may adjust it to his liking and depend upon getting exactly what he wishes.

A swinging Cut-Off operated from the handle-grip instantly starts or stops planting, preventing loss of seed at ends of rows, and is decidedly better than a slide cut-off that is likely to be jammed by falling seed.

The seed hopper and wheels of this machine are heavy castings, and the frame and handles are of hardwood. Throughout, it is a machine of the utmost durability, many being now in



IRON AGE
"New Model"

use that are 25 or 30 years old. Plow-handle grips greatly assist in its easy operation.

Capacity of hopper, two quarts. The marker can be worked from either side and may be adjusted for rows up to 20 inches wide. The main wheel is 14½ inches in diameter, with wide rim.

The covering wheel is attached to a swinging frame so that by merely varying the pressure on the handles the operator can roll lightly or otherwise as he may desire.



Fig. 234

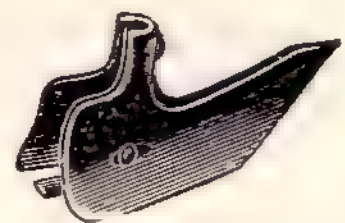
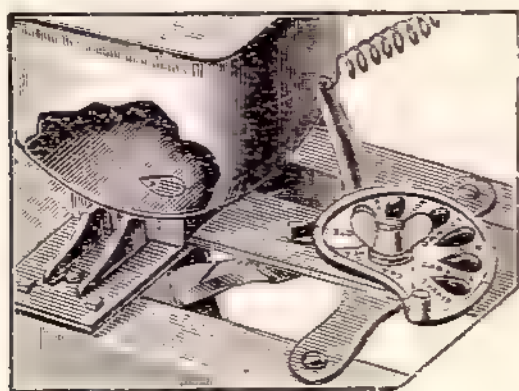


Fig. 304

Fig. 234 shows the plow regularly supplied. This is similar to the regular opening plows used on the other IRON AGE drills, and is known as an anti-clog plow, because it cuts through trash and will not choke.

For sowing onion seed, for sets in a row over three inches wide, we recommend Opening Plow, Fig. 304, shown here.

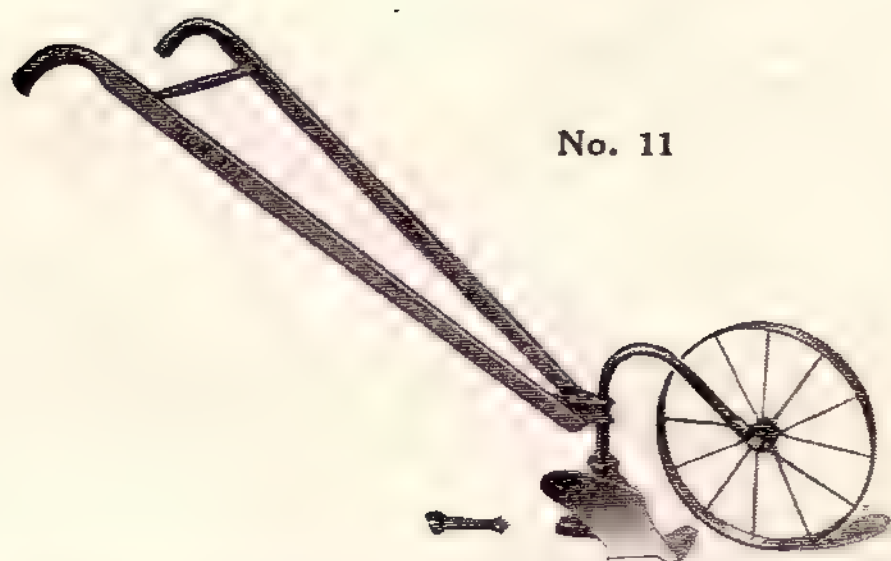


PERFECT INDEX

Fig. 29

A user says: "I bought a New Model Garden Seed Drill of you about 25 years ago. It has always worked fine and is now in first-class condition."

No. 11 Wheel Plow



No. 11

A light, easily-handled, low-priced tool that can be used as a wheel plow anywhere, not only for garden furrowing, but for turning under the droppings in the poultry yard, preparing the ground for seeding rye, etc.

The frame is made of steel tube and malleable iron. The wheels are made of steel, 16 inches in diameter and with a $1\frac{1}{4}$ -inch tire. The frame and wheel are attractively painted and striped. The plow is polished. Long

hardwood handles with plow-handle grips, adjustable as to height, easy and comfortable to work.

This tool will plow from three to four inches deep, and throw a furrow four to six inches wide.

The small tools shown below with the No. 11 can be purchased at any time, thus making the complete No. 12.

The average net weight of this tool with one of the working parts is only about 8 pounds. It is easily carried around wherever wanted, and, while used as readily as a common hoe, is much quicker and does much better work.

For the man who does not want to put much money into a tool and yet wants something that will open and cover furrows as well as hill growing crops, it is very satisfactory.

One should not infer from its low price that it is a cheaply-constructed, inferior garden tool. Its low cost is reached by simplicity of design, not by the use of cheap materials. It is strong and durable at every point.



No. 12. A wonderful help in the poultry yard

No. 12 Wheel Plow and Cultivator

Like the No. 11, this tool is a light, easily-handled, low-priced tool, but, in addition to the plow, it is equipped also with a hoe, a cultivator tooth and a rake.

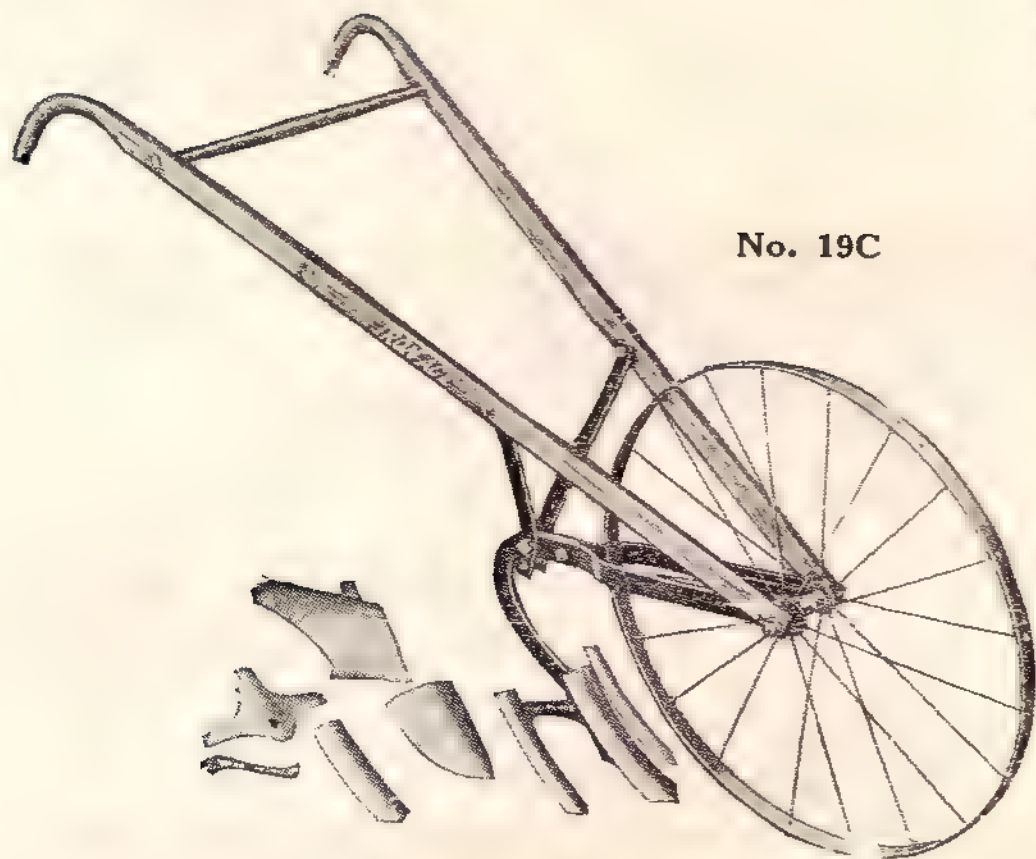


No. 12

This tool is an inexpensive garden-maker that every owner of a garden, no matter how small, should have. It is greatly liked by women, boys and girls who want to raise a few vegetables and flowers around the home.

Frame of steel tube and malleable iron. Wheel of steel, 16 inches in diameter and having a tire $1\frac{1}{4}$ inches wide. Frame and wheel attractively painted. Tools polished steel. Handles of hardwood, finished natural, with plow-handle grips, easy and comfortable to work. Adjustable as to height.

No. 19C High Wheel Plow and Cultivator



The greatest distinctive feature of this tool is the extra high wheel which works over uneven ground with the greatest of ease. In the Spring, when the ground is not too hard or heavy, it is used for breaking the soil, and for opening and covering the furrows for fertilizer and seed. The plow is of the land-side type, turning as neat and true furrow as one could desire. The tools are heavy, vicious diggers, and the amount of work they will do is astonishing. A set of three teeth on one bracket performs deep and rapid cultivation. A single tooth is supplied for narrow work, a pointed furrower for shallow furrows, and a scuffle hoe for ordinary cultivation. These tools are all adjustable on the frame and are attached with a single set-screw. The handles may be adjusted to suit the operator.

With this tool, recognized for many years as the standard of excellence among high-wheel garden tools, it is possible with but little effort to cultivate to an unusual depth—and when the scuffle hoe is used scarcely any effort at all is used in skimming along just under the surface of the soil. This gets the weeds and forms a protective dust-mulch at one operation.

The steel wheel is 24 inches in diameter, with a tire $1\frac{1}{8}$ inches wide. The frame is of steel, in three pieces only. The handles are of hardwood, long, adjustable to the height of the operator, and have the easy, comfortable plow-handle grips that distinguish all IRON AGE garden tools. The frame and wheel are painted black, the handles varnished natural grain, and the working tools are polished. A tool that sells in very large numbers, the market gardener frequently buying them in quantity for gang use.

R. F. D. 1, Box 378
St. Petersburg, Fla.,
August 17th, 1925

Gentlemen:

Please send me present price on your High Wheel Cultivator and Plow No. 19C, together with the Landside Plow and Scuffle Hoe. The other attachment I do not need.

I have worn out the one I have been using for the past fifteen years, and want another. Am well pleased with your line of garden tools.

Yours very truly,
W. S. GASTOW



Perfect balance, rigidity and strength make the No. 19C a great favorite

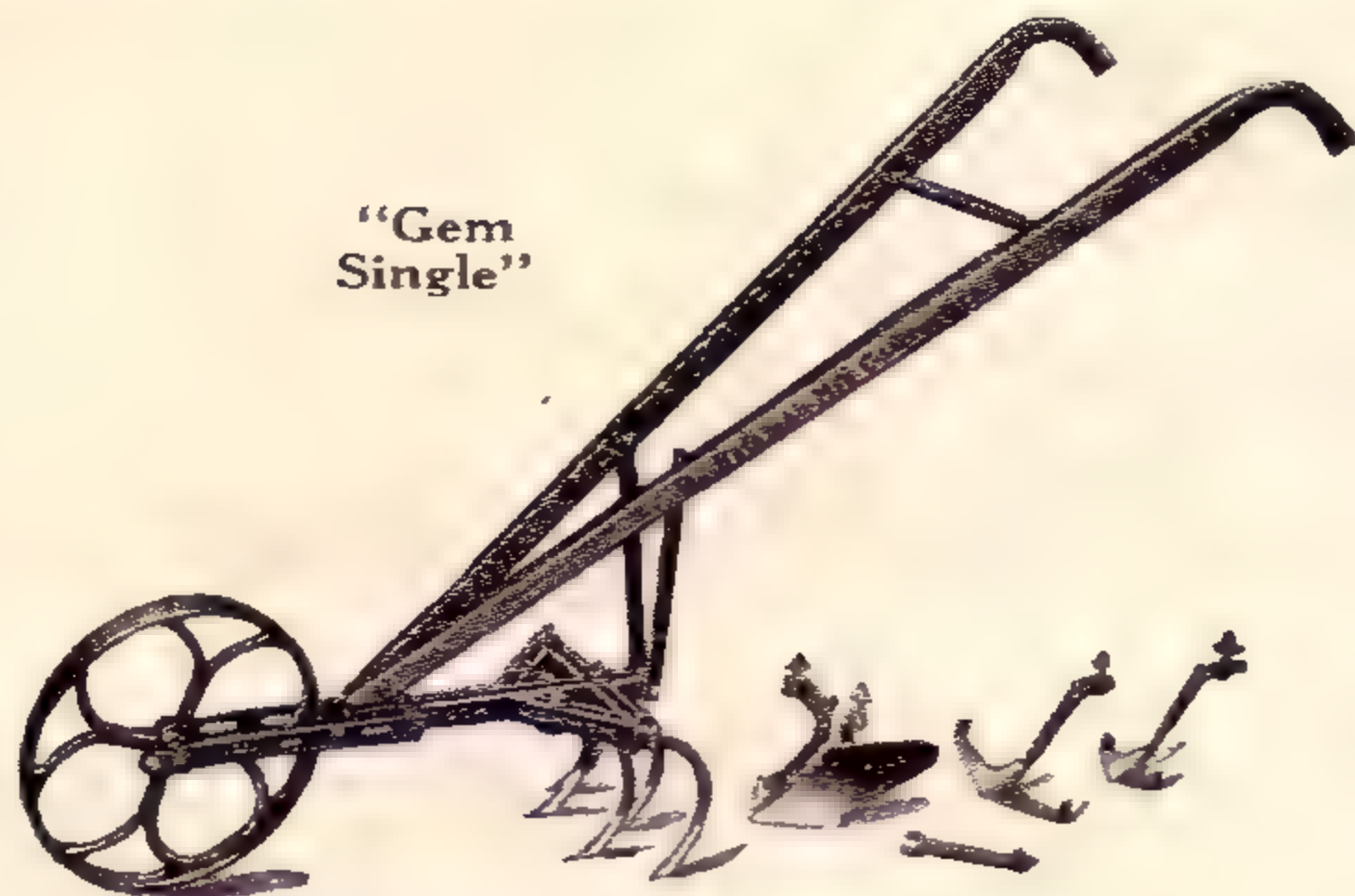
"Gem" Single Wheel Hoe and Cultivator

An inexpensive, light-weight, but durable tool very much liked by women and those who have small gardens which they wish to work efficiently. Preferred by many because of its wide variety of working tools, five cultivator teeth, double furrowing plows and two sizes of scuffle hoes. It is also adjustable to an unusual degree; the wheel is adjustable in height by means of the ratchet in front of handles, and the handles themselves adjustable by means of the braces.

The cultivating teeth are each stamped from one piece of steel and guaranteed for thorough work, especially in hard soil. The scuffle hoes for working between the rows are 8½ and 4 inches wide respectively. The plows may be mounted with backs together as shown for furrowing or may be reversed to throw the soil back onto the furrow for hilling.

The handles are of hardwood, with the easy, natural plow-handle grip of the IRON AGE line. All parts attractively painted and varnished. Tools polished. The wheel is cast, and is 1½ inches in diameter.

This tool is also furnished as the "Gem" Single Wheel Cultivator, in this instance supplied with the five cultivating teeth only.

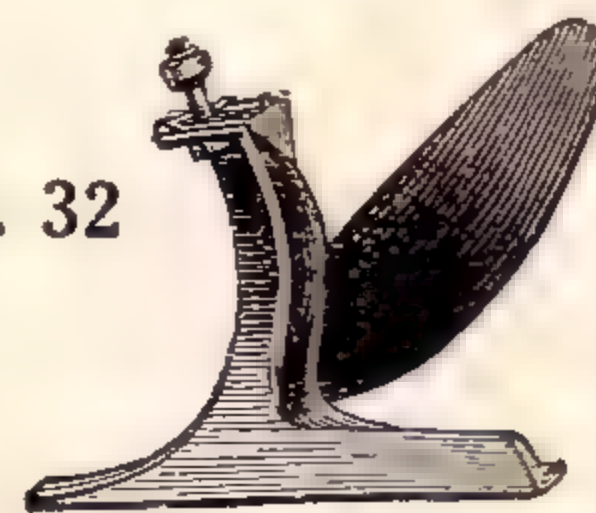


Other Attachments for the "Gem" Wheel Hoe and Cultivator

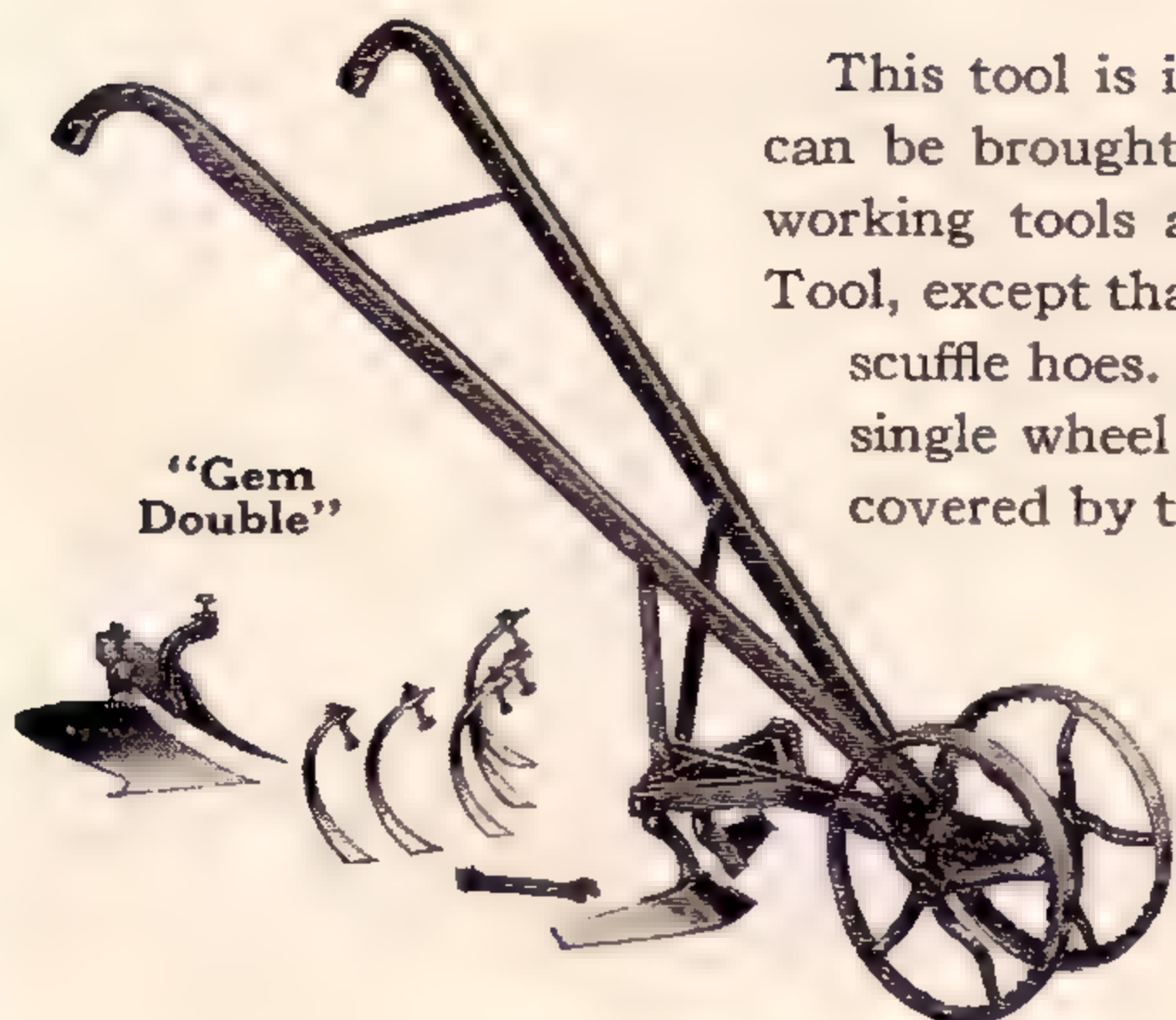
The Fig. 32 is a landside plow made especially for the two "Gem" tools shown here. It opens a straight, deep furrow with ease, making it possible to distribute manure in the rows if desired, and greatly extends the usefulness of the tool.

Other attachments, such as onion set gatherers, weeders, Fig. 369 discs, etc., shown on page 15, may be applied to both "Gem" tools shown on this page.

Fig. 32



"Gem" Double Wheel Hoe



This tool is intended for use astride rows, although the wheels can be brought up together for use as a single wheel tool. The working tools are similar to those with the "Gem" Single Wheel Tool, except that a pair of side hoes are furnished instead of the two scuffle hoes. The frame is exactly the same as that of the "Gem" single wheel tool; it is subject to the same adjustments and is covered by the same description as that tool except as noted here.

Box 213
Moscow, Idaho,
April 18th, 1925

Gentlemen:

I have a number of your wheel hoes on my farm and last week had occasion to buy still another. One of them has been in actual service continually for 29 years. We consider IRON AGE the best wheel hoes made.

G. D. HODGE

Attachments for Wheel Hoes

Numerous attachments for IRON AGE Wheel Hoes which greatly extend the usefulness of these tools are made and supplied as extras. Market gardeners particularly appreciate these valuable time and labor savers.



Fig. 33

Fig. 33. Onion Set Gatherer. Gathers onion sets, radishes, spinach and other crops. Can be used on any IRON AGE Double or Single Wheel Hoe.

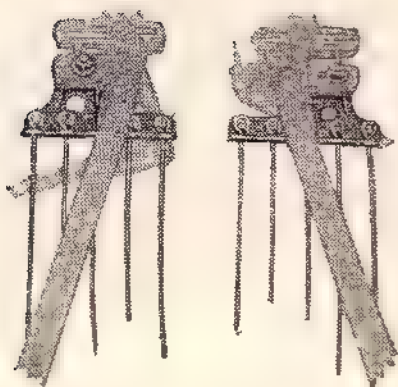


Fig. 81

Fig. 81. Double Weeder Attachment. Used after the side hoes have been run through crusty ground, it breaks up the crusts and destroys many small weeds that might retain a foothold. Also throws back to the plants the small amount of ground pushed away by the hoes. One or more teeth can be taken off.

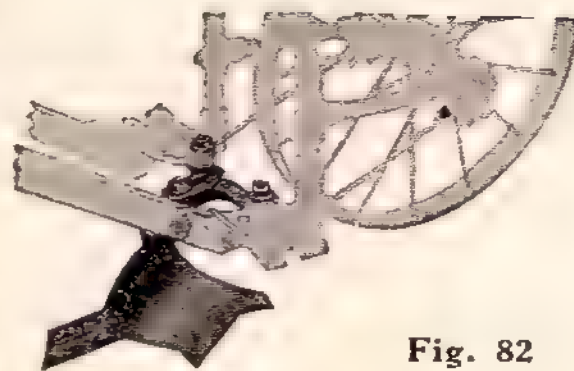


Fig. 82

Fig. 82. Landside Plow. Fitted with a land-side, this plow makes a good, deep furrow and runs steadily and in a straight line. Intended for use on the No. 301.

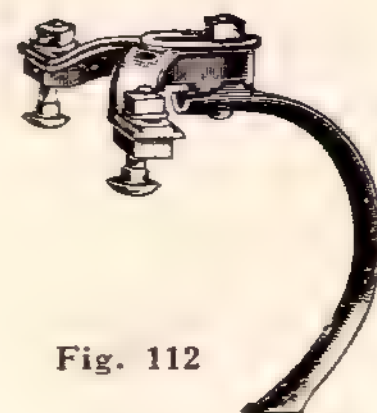


Fig. 112

Fig. 112. Single Tooth Attachment. An extra tooth for use on the No. 301 Wheel Hoe, intended for cultivating the ground between the two inside teeth of the cultivator set when working between rows.



Fig. 145

Fig. 145. Special Opening Plow. For sowing onion seed for sets in a wide row. Can be applied to Nos. 306, 315, 316 and 322.

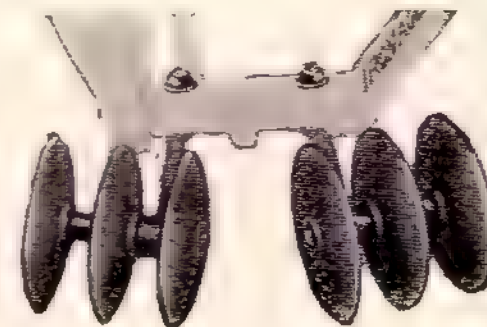


Fig. 369

Fig. 169. Combined Disc and Fender Attachment. For double wheel form of the No. 301. The small discs cut the surface ahead of the hoes. Also used to keep soil from being thrown on plants.

Fig. 170. Double Moldboard Plow. Adjustable wings to open furrows of various widths. For narrow work, remove the wings. Use on any IRON AGE Wheel Hoe.

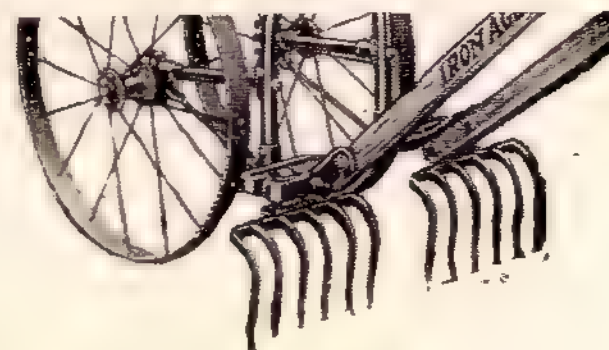


Fig. 573

Fig. 360. Special Plow. Can be applied to either No. 306 or No. 315. Because of its shape it pulls into the ground easily, but is recommended for clean soil only.

Fig. 369. Disc Attachment. For Nos. 301 and 320. Discs can be set either way or used astride or between rows, and throw soil either toward or from the row. Can be used three, two or one on a side. Adjustable for angle and depth.

Fig. 560. Corn, Bean and Pea Seeder Attachment. For Nos. 301 or 320. Revolving plate method, dropping seed 4, 6, 8, 10 or 12 inches. Marker adjustable up to 30 inches. By using special plates, suitable for lima beans.

Fig. 573. Rakes. For leveling and pulverizing; also breaking first crust, destroying the weeds. Can be set at any angle. Fits Nos. 301, 303, 306, 313, 315 and 320 tools.

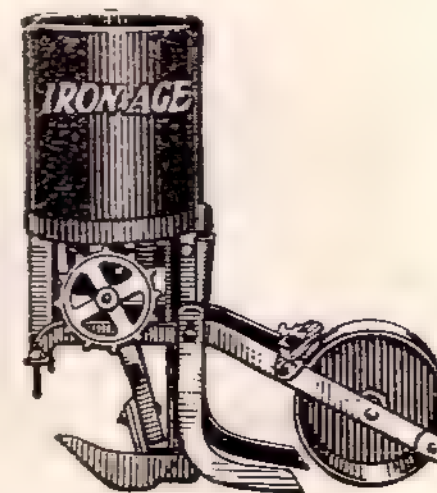


Fig. 560



Fig. 170



Fig. 360

IRON AGE Horse Hoes and Cultivators

Four generations have participated in the development of IRON AGE Horse Hoes and Cultivators. Wherever one goes today he will find these tools, varying in styles and in ages from the very latest to models made ten, twenty-five and forty or fifty years ago. And through them all, differing as they may in pattern, runs unfailingly the same dominant characteristic of **quality**. Take these various models and place them side by side and you will have a complete history of the horse hoe tool from its early wood frame and simple iron tooth form to the most highly developed implement of today.



Fifty years of service

Fifty years have passed since this company introduced for the first time in implement history the use of iron and steel in the manufacture of cultivator frames in place of wood, an epochal innovation signalized at the time by the coining of the trade name Iron Age. IRON AGE became the name of Bateman implements at that time and such it has been ever since, known throughout the world.

Although the tools shown here cover practically every need and every feature that has ever been invented for one-horse cultivating, it has been possible to adhere to one or two basic models. With a few exceptions, therefore, it will be noted that nearly all of the horse hoes and cultivators shown here are interchangeable. Most of them may be equipped with either the lever wheel or the plain wheel; they may have the Expander Lever or the Wheel Clamp Expander, and set up in all sorts of combinations of teeth and shovels as shown on page 22.

Simplicity, strength, rigidity, compactness, lightness and wonderful range of adaptability are not merely characteristic of IRON AGE Horse Hoes and Cultivators, but—**these features are evident at the first glance**, and they are proven by the long record of service behind the tools.



IRON AGE Horse Hoes and Cultivators are tools of steel and hardwood—steel throughout except for the handles. In every detail they are built with a margin of strength far beyond what they would be expected to do in actual service. The depth of working, the throw of the soil, the width of rows, the height of the handles, all are easily adjusted to suit.

The points, steels and sweeps used on IRON AGE tools are of special analysis steel, scientifically shaped, highly polished, and the cultivator teeth are up-set at the points to double their wear.

No. 600 Horse Hoes and Cultivators

This is the tool a man buys when he wants a tool with the widest range of usefulness and every feature of convenience that could be desired. The long, high steel frame makes it run steadily and clear of trash. The hoe standards are solid steel, securely attached to the frame bars by ratchets. These give several easy adjustments to the side hoes, both sidewise and at different angles.

As a Horse Hoe, the steels may be set to hoe either to or from the rows, and these together with the points and the sweep thoroughly work over every inch of the soil in the tool's path.

Lever Expander. A very desirable feature shown here on the No. 600EL, the 600EP and some of the other styles. This feature makes it only a matter of a moment to adjust the cultivating teeth to the width between rows. No stopping, no adjusting the bars by hand and no use of a wrench is needed. As a cultivator, the No. 600 with this lever expander expands to 30 inches and closes to 14. The letter E included in the number of a tool indicates that the Lever Expander is desired.

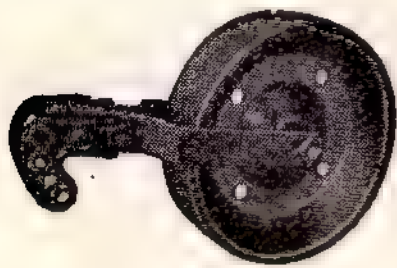
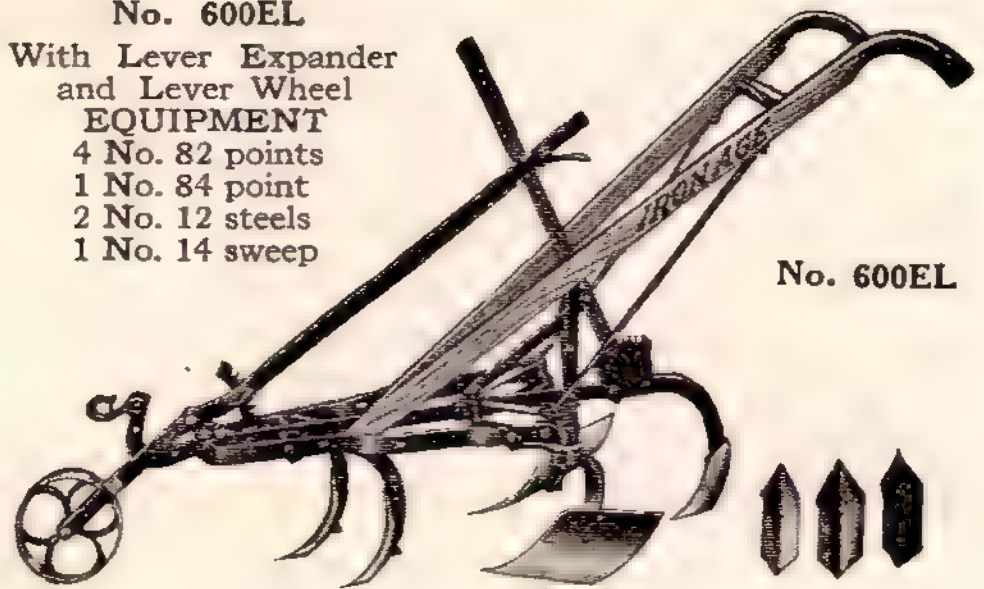


Fig. 520
Solid Wheel

Wheel Clamp Expander. The No. 600 is also furnished with a Wheel Clamp Expander when desired. This form usually has the Plain Wheel also, being known as the No. 600P. When not otherwise indicated, this type of Expander will be furnished. This Expander is illustrated on the No. 37 cultivator shown on page 21.

Lever Wheel. This feature, shown on the No. 600EL, offers a very convenient and easy method of adjusting the depth at which the tool is to be worked. With it, the operator adjusts the depth at which he desires to work merely by raising or lowering the lever, instead of changing the bolts as required on the Plain Wheel type. It is a convenience, not a necessity, and

No. 600EL
With Lever Expander
and Lever Wheel
EQUIPMENT
4 No. 82 points
1 No. 84 point
2 No. 12 steels
1 No. 14 sweep



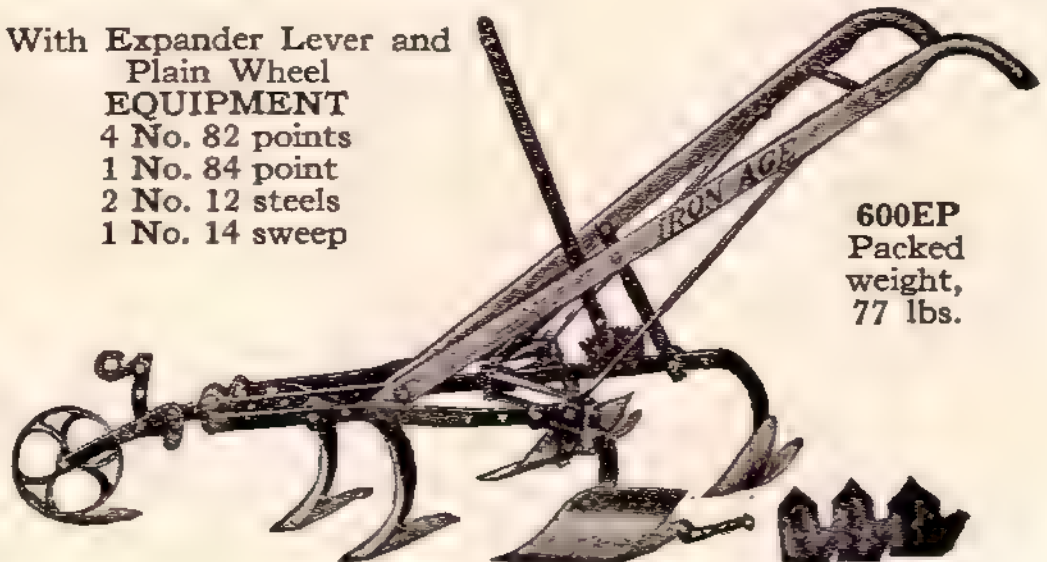
No. 600EL

the tool loses none of its actual working value without it. The letter L added to the number of a cultivator indicates that the Lever Wheel is desired.

Plain Wheel. The plain wheel depth regulator takes a little more time to change than the Lever Wheel, but where changes are seldom made it gives entire satisfaction. Glancing at the illustration of the No. 600EP it will be noted that the wheel standard is of steel, same as the frame, and that it is so shaped and drilled that several different adjustments may be made by merely changing the bolts to other holes. The letter P added to the number of a tool indicates that the Plain Wheel is desired.

Fig. 520, Solid Wheel. Instead of the wheel with open spokes as generally shown herein on the horse hoes, we can furnish a solid surface wheel, Fig. 520, a type which does not throw as much dirt as the open wheel.

With Expander Lever and
Plain Wheel
EQUIPMENT
4 No. 82 points
1 No. 84 point
2 No. 12 steels
1 No. 14 sweep



600EP
Packed
weight,
77 lbs.

Horse Hoes and Cultivators (Continued)

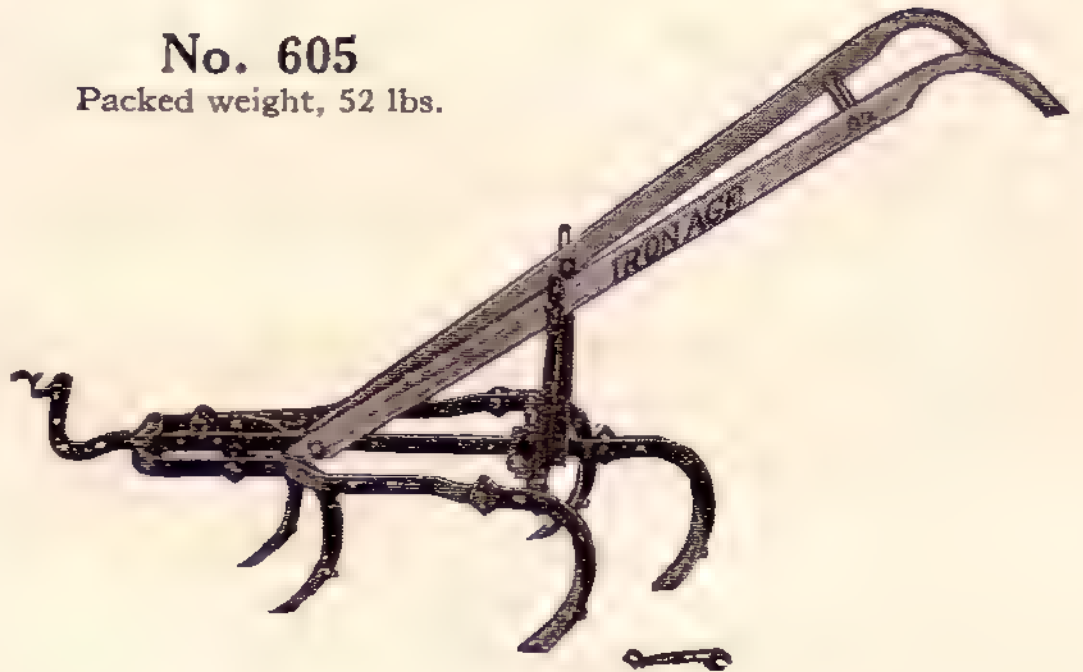
No. 605 Plain Five-Tooth Cultivator

This cultivator is strong and simple in design, and very popular where a durable, low-priced tool is demanded; also where laborers are careless or do not know how to handle any but the simplest kind of tools. When set to do certain work it does that work without any chance of getting out of adjustment.

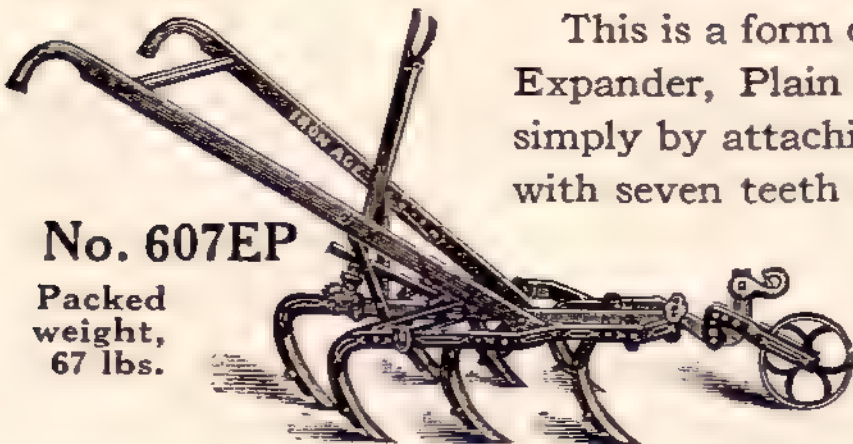
A plain clamp expander adjusts the width at which the teeth are to work—opening to 24 inches and closing to 9, range enough for a wide variety of crops.

This is a high grade tool, its price being low only because levers, wheels, side hoes, etc., are left off. These extra parts can be used on this tool when wanted, but it is shown here stripped of all but the bare essentials.

No. 605
Packed weight, 52 lbs.



No. 607EP Seven-Tooth Cultivator



No. 607EP

Packed weight,
67 lbs.

This is a form of the regular No. 605 Cultivator equipped with Lever Expander, Plain Wheel and seven cultivator teeth. It is made up simply by attaching two additional teeth to the side-bars, giving a tool with seven teeth in all.

This tool provides the least expensive type of seven-tooth cultivator and is in considerable demand. Where wide cultivation is desired in loose soil it is very satisfactory.

No. 607FEP Seven-Tooth Cultivator

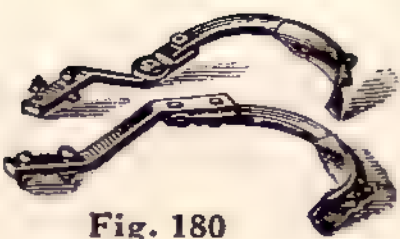


Fig. 180

Furrow-closing Attachment. No. 1 points

This form of the No. 605 is made up by adding thereto Fig. 180 Furrow-closing Attachment with its two additional teeth. In this way an extremely efficient type of seven-tooth cultivator is produced, and one which we highly recommend.

On a five-tooth cultivator the rear tooth on each side-bar passes close to the crop—it stirs the soil just where stirring is needed, but leaves an open furrow near the roots, and these roots may be dried out by the sun and wind. This should be closed so the moisture will be retained. Especially

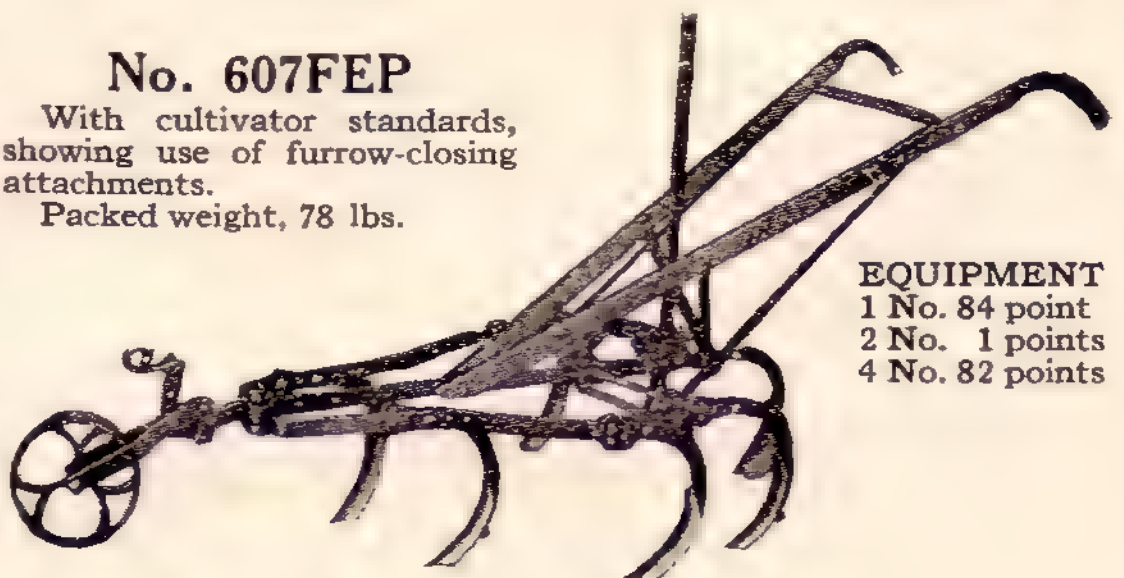
is this true when the cultivator is opened wide and the center tooth or sweep cannot close the furrow because of this width. The teeth on Fig. 180 do this job well. The complete cultivator may be bought and the attachment, Fig. 180, added at any time.

This 7-tooth, furrow-closing combination is also furnished with a Lever Wheel when so ordered, the number being known as No. 607FEL.

No. 607FEP

With cultivator standards, showing use of furrow-closing attachments.

Packed weight, 78 lbs.

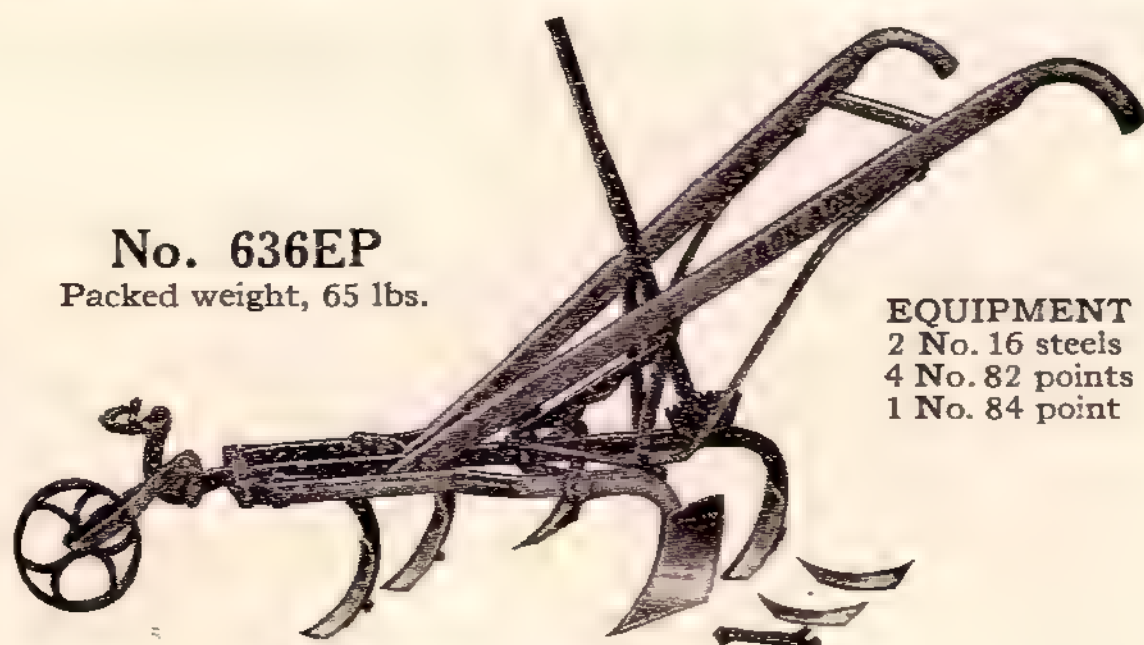


EQUIPMENT
1 No. 84 point
2 No. 1 points
4 No. 82 points

Horse Hoes and Cultivators (Continued)

No. 636EP Horse Hoe for Hilling

An IRON AGE tool equipped with special pointed blades which make it especially adaptable to hilling. The pointed blades are shaped to enter hard ground and do not clog in sod. They do not need a change of angle because they are built for direct work. The points are bolted to the standards without blocks and always keep in position when working.



No. 636EP
Packed weight, 65 lbs.

EQUIPMENT
2 No. 16 steels
4 No. 82 points
1 No. 84 point

This machine expands to 24 inches and closes to 9.

No. 600 Combinations

In this list, the letter E indicates expander lever; the letter L, lever wheel; the letter P, plain wheel, and the letter F, furrow-closing attachment.

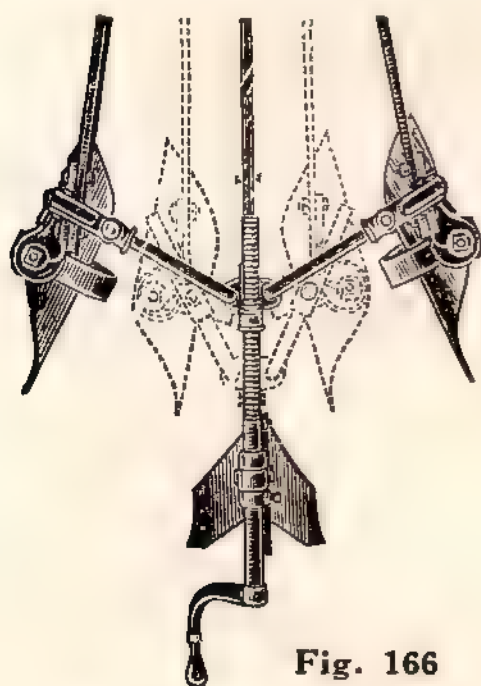


Fig. 166

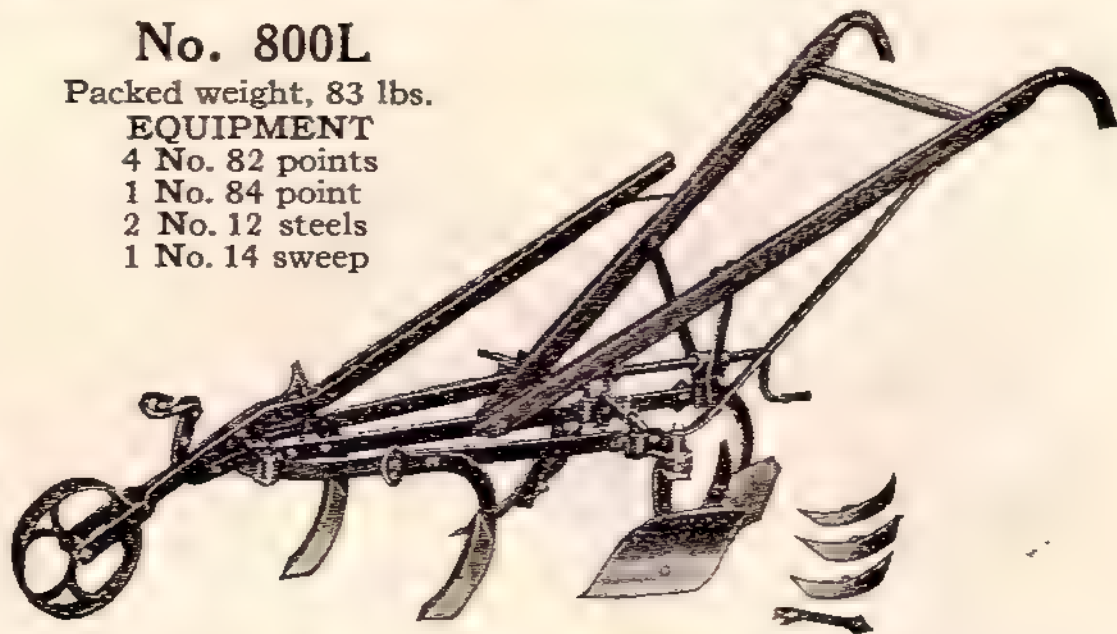
- No. 600-EL—With Lever Expander and Lever Wheel.
- No. 600-EP—With Lever Expander and Plain Wheel.
- No. 600-P—Without Lever Expander and with Plain Wheel.
- No. 607-FEP—7-Tooth Cultivator with Lever Expander, Plain Wheel, and Fig. 180.
- No. 607-FEL—7-Tooth Cultivator with Lever Expander, Lever Wheel, and Fig. 180.
- No. 605—5-Tooth Cultivator without Lever Expander, without Wheel, and without Fig. 180.
- No. 636 EP. With Lever Expander and Plain Wheel.
- No. 636 P. With Clamp Expander and Plain Wheel.

Horse Hoes and Cultivators with Screw Expanders

The No. 800 series of IRON AGE Horse Hoes and Cultivators are the strongest and heaviest tools of this kind that we make. They are very popular where soil conditions are hard and difficult to work.

The Screw Expanders on these tools permit a much finer adjustment than the pawl and ratchet, as will be seen by looking at Fig. 166. In addition, also, to the Screw Expander, there is a Set Screw Adjustment on each connecting rod that permits each side to be set separately for wide or narrow rows. In going twice to the row the right-hand side may be drawn inwards for the second trip so that the furrows left next to the crop will be filled in. This prevents the sun and wind from drying out the soil next to the roots of the plants. It is a well known fact that the more level the soil is kept the better it will retain moisture.

No. 800L
Packed weight, 83 lbs.
EQUIPMENT
4 No. 82 points
1 No. 84 point
2 No. 12 steels
1 No. 14 sweep



The standards carrying the large side hoes may be set close together and the side hoes adjusted to form a double moldboard plow for opening furrows.

No. 800 tools all expand to 28 inches and close to 9 inches.

Attachments for Horse Hoes and Cultivators

Fig. 188, Depth Regulator Attachment

Adjusted with front lever, will quickly change the working depth of the cultivator. Wheel and Regulator work together, but either may be adjusted separately. Set the Regulator at its extreme depth and you can raise the cultivator from the ground entirely and draw it to and from the field. Can be applied to the No. 600, 605, 607, 607F and 636 cultivators and Horse Hoes.

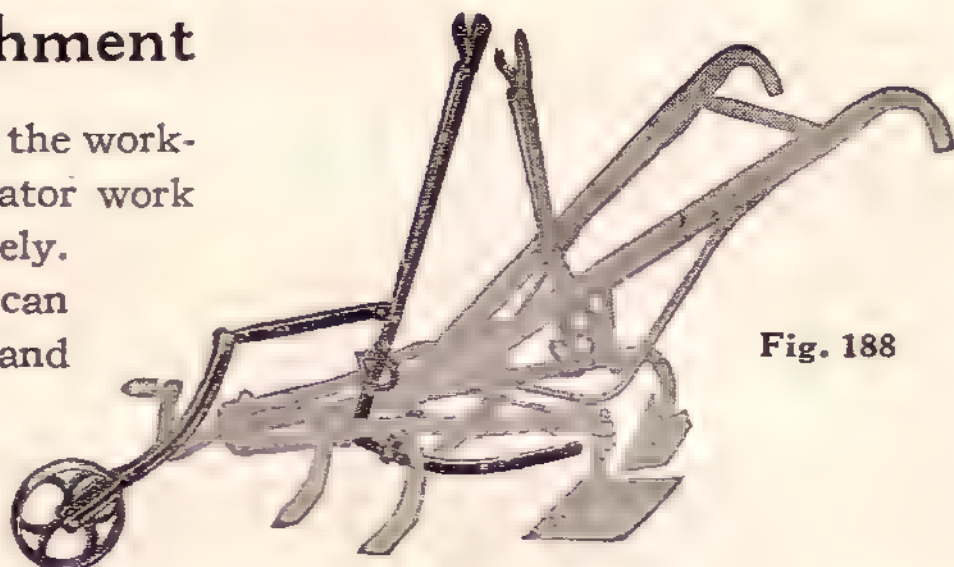


Fig. 188

Sweeps for Wide and Shallow Work

Fig. 101 illustrates adaptation of the No. 18 Sweeps shown on page 22. Equipped in this way, shallow, level cultivation is obtained and a good method of keeping the moisture in the soil is used. The sweeps can be set to run deeper, and used in various combinations—such as cutting out thistles. Made in 8, 10, 12, 15 and 18-inch widths, and adaptable to all IRON AGE Horse Hoes and Cultivators. We can also furnish half-sweeps, No. 23, which when attached to rear standards of the side bars permit working close to crops without cutting the small roots. In similar manner many of the other cultivator points and steels provide a wide variety of combinations which extend the usefulness of the tool to every conceivable form for handling the soil.

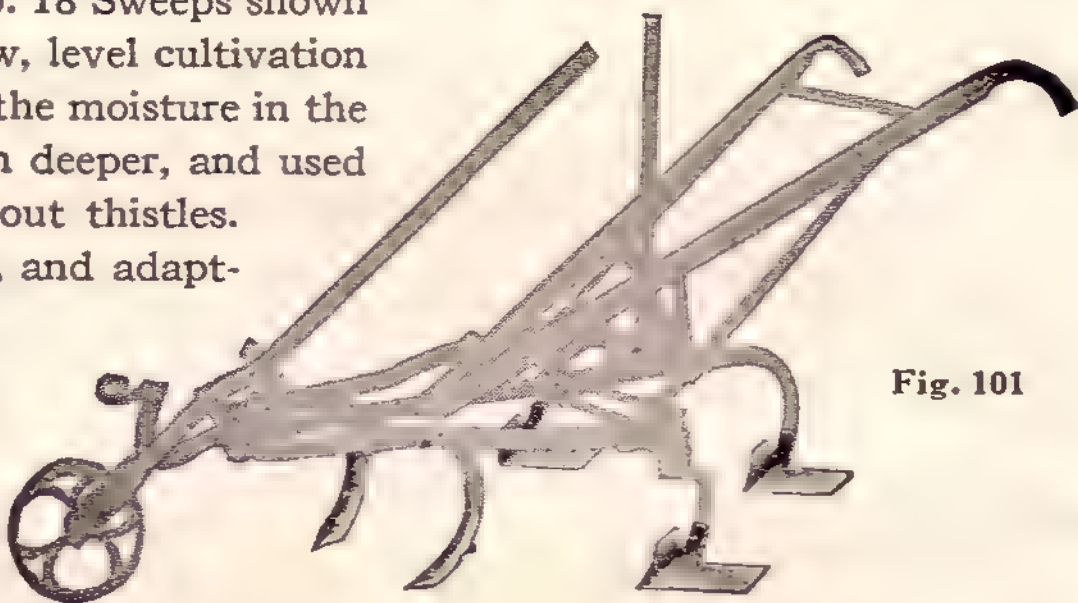


Fig. 101

Fig. 73, Vine Lifter Attachment

Is used in all vine and bush crops, but principally in cultivating and hilling sweet potatoes. It permits soil to be thrown to the growing plants without covering and injuring the vines. Can be easily attached, is inexpensive, and saves hours of work in turning vines by hand. Can be applied only on Nos. 600 and 636 Horse Hoes.

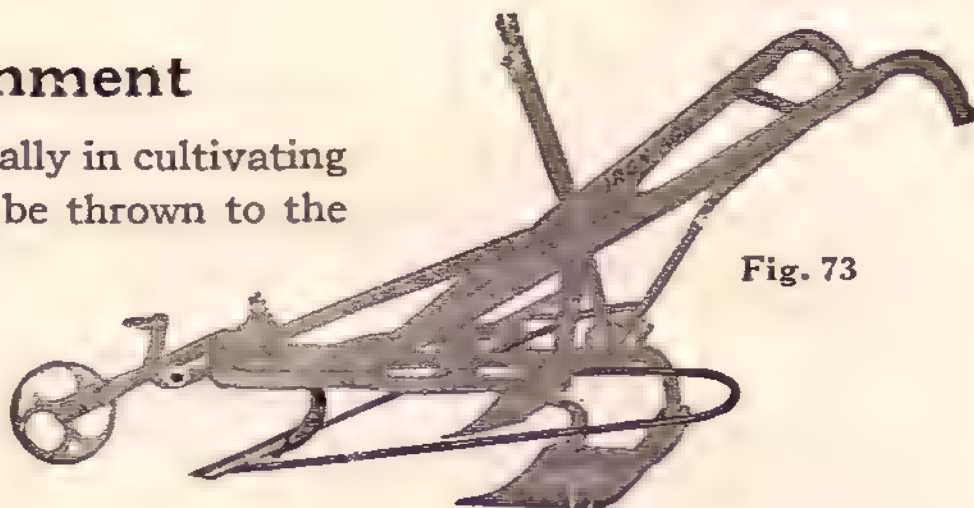


Fig. 73

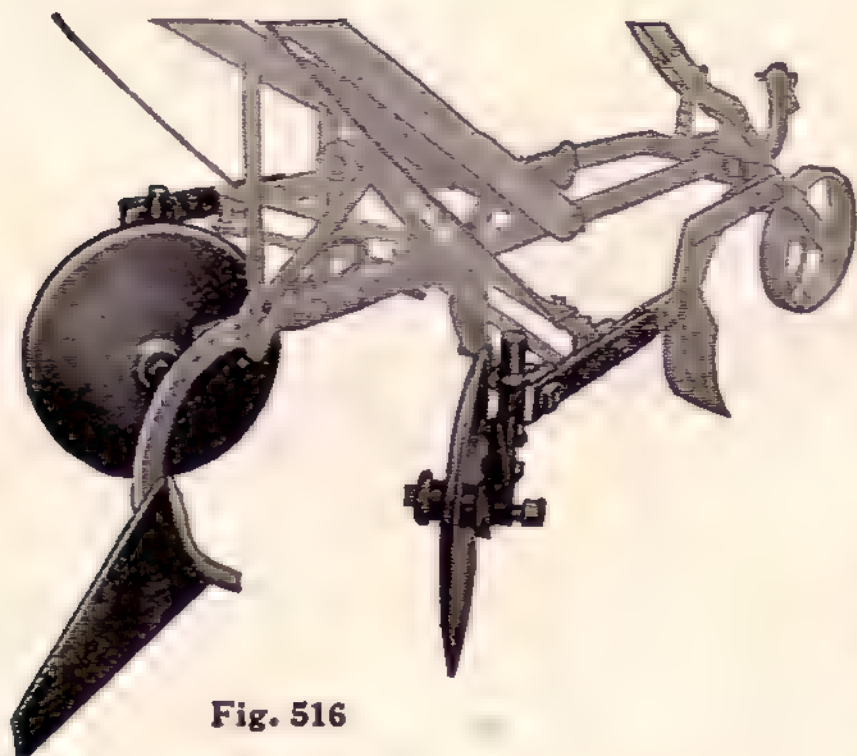


Fig. 516

Fig. 516 can be applied to any IRON AGE Five-Tooth Cultivator or Horse Hoes, regardless of age. Does not include rear standard or cultivator tooth, but the steel steadying plate shown in black is part of the attachment. This attachment is used for ridging, for turning the soil from growing plants and for covering.

The 12-inch Discs have cast axles and chilled bearings. Sand Caps protect against dirt. Adjustable grease cups. The discs can be adjusted to any angle. Fig 516 shows them set to throw to the row. If wanted to throw soil away, or to make up ridges, change discs to opposite sides.

An IRON AGE Cultivator for Light Soil

The No. 37 Cultivator is the lightest weight tool we make. It is built to work in light, sandy soils such as are found in the South Atlantic and Gulf states, and in such localities it is very popular, but it cannot be guaranteed in sections where the soil is heavy. Although a light-weight tool, the materials used are high grade and the tool is well put together. Unlike many other tools of similar price, it is attractively painted and striped and makes a very good appearance.

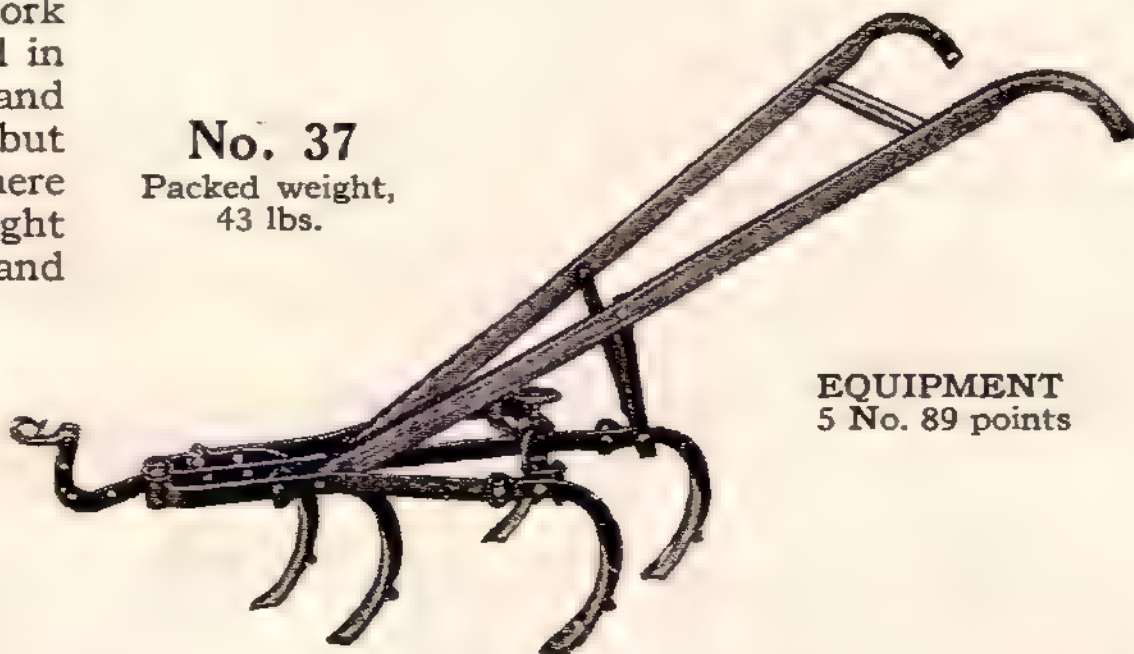
We furnish this cultivator when ordered with lever expander, plain wheel, but for hilling recommend only the use of the small size hilling blades like Nos. 10 and 16, page 22, which may be bolted directly to the two outside rear standards.

The No. 37 expands to 20 inches and closes to 9 inches.

No. 37E. Five-tooth Cultivator with Lever Expander.

No. 37EP. Five-tooth Cultivator with Lever Expander and Plain Wheel.

No. 37
Packed weight,
43 lbs.



EQUIPMENT
5 No. 89 points

Combined Diamond-Tooth Harrow and Cultivator



Very strong, simple in design and yet suitable for a very wide range of work, this tool is a great favorite with gardeners, growers of berries and small fruits and others who wish to work with one horse. The frame is high and very strongly constructed. The steel Clamp Expander opens to 36 inches and closes to only 11 inches. A Lever Expander can be furnished when preferred; also with plain or lever wheel.

These harrows cultivate deeply without throwing soil into ridges and are greatly appreciated when it is desired to practice level cultivation. Also used extensively for preparing soil between rows of ripening vegetables in advance of sowing cover crops.

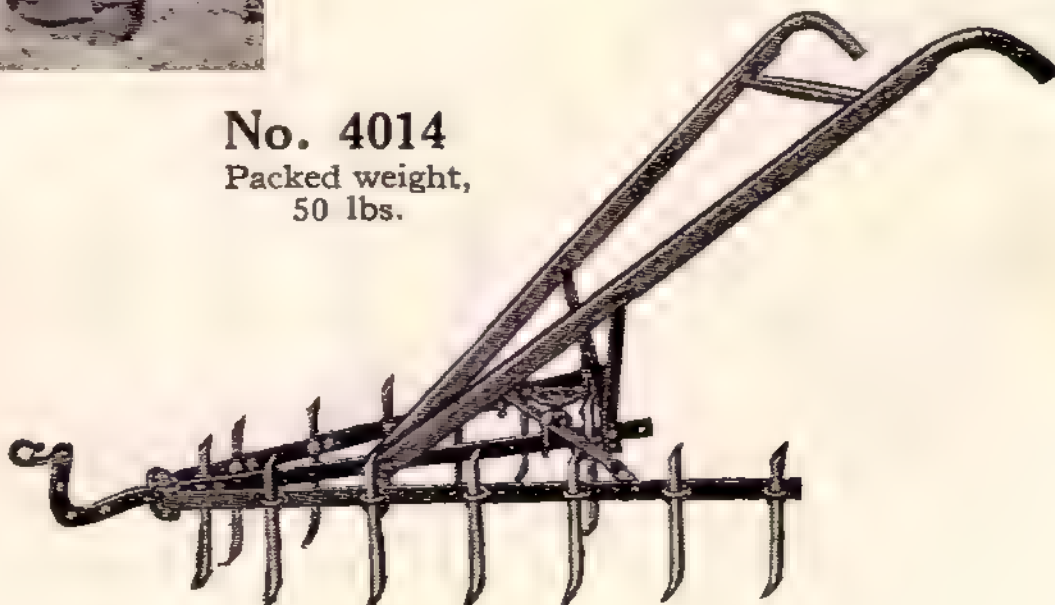
No. 4014. Without wheel; with Hand Wheel Clamp Expander.

No. 4014P. With Plain Wheel.

No. 4014E. Without wheel; with Lever Expander.

No. 4014L. With Lever Wheel.

No. 4014
Packed weight,
50 lbs.



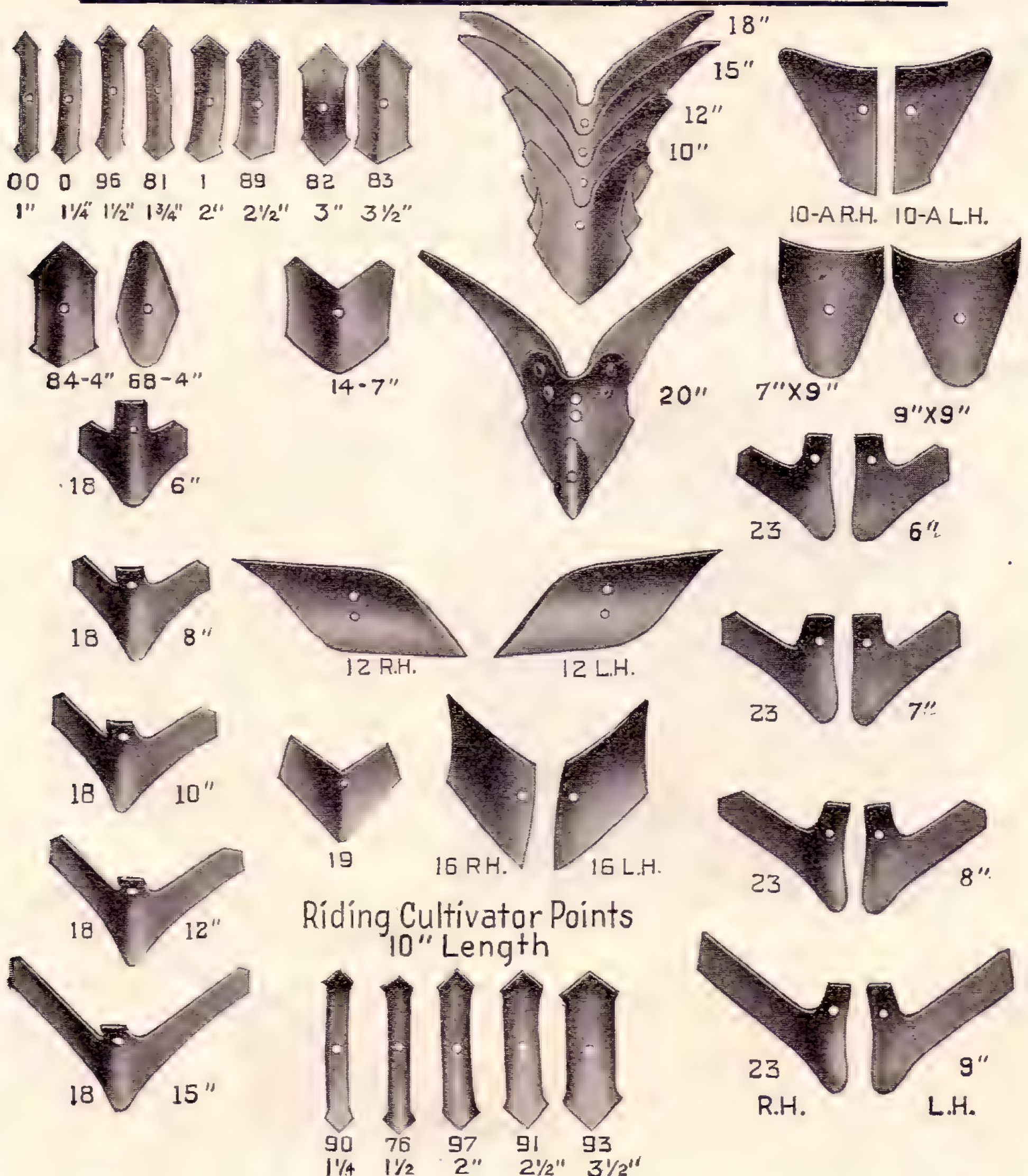
Cultivator Points and Steels

The manufacture of Points and Steels has been a specialty with us for a great many years. Many of the most popular steels used today were originally designed and named by us, for instance number 68 steel was designed in the year 1868. IRON AGE Cultivator Points and Steels are made of steel of a special

analysis, made especially for us, and deliver a quality of service so far out of the ordinary that thousands of farmers will have no others.

All IRON AGE Points and Steels are branded on the reverse side and we caution our customers to see that all the points they purchase are so branded.

CULTIVATOR POINTS AND STEELS



IRON AGE

POTATO PLANTERS

The Greatest Improvement in Potato Machinery since the Invention of the Robbins Type IRON AGE Planter

IT is undeniable that conditions to a large extent dictate the type of planter required. Localities, the value of land, the cost of seed, labor conditions, all have a bearing on the matter. Furthermore, the need may change from one year to the next.

For this reason the IRON AGE Potato Planter as now made—interchangeable from an Assisted-Feed or Two-Man type to an Automatic Feed or One-Man type, or vice versa—offers an advantage of the most extreme importance to every potato grower. At any time he may desire to change from one type to the other he need purchase only the proper seeding attachment and he has the other machine complete in every detail—not, in any sense, a makeshift.

For an Assisted-Feed Planter, he has the celebrated IRON AGE (Robbins) Planter, a machine so well known wherever potatoes are grown that it needs no introduction here. And for an Automatic Planter he has a machine that in marvelous groundwork, in simplicity and accuracy is not approached by any other one-man planter on the market.

We offer this very latest convertible type of IRON AGE Potato Planter with a great deal of pleasure and satisfaction. We know what it will do under all conditions. We know what tremendous saving in seed, in labor, in ground, it will make. We know its value as a producer of uniform quality potatoes—the avoidance of hollow center potatoes frequently occurring next to missed spaces and the

small sizes found in “doubled” hills. We know how it maintains an even depth of planting, how it mixes and keeps away from the potato all the fertilizer—and, in fact, completes the entire operation in a way that wins warm praise wherever it is used.

The inside pages attempt to show clearly just how the IRON AGE Planter is changed from one type to the other, how it may be equipped either with or without the fertilizer attachment, and explains in detail its many features. We feel sure that you will find this description interesting.



Wonderful Groundwork of IRON AGE Potato Planters

For many years it has been conceded that, in its ground performance, the IRON AGE Potato Planter exhibits the highest degree of perfection ever attained. By IRON AGE ground performance is meant the opening of furrow, distributing of fertilizer, placing of the seed safely out of touch of the fertilizer, and, finally, ideal covering and ridging.

Until recently, IRON AGE Planters have been exclusively of the well-known Robbins or Assisted-Feed type, popularly known as the "two-man" planter. This has been due to the fact that we ourselves were potato growers and realized the dollars-and-cents value of 100 per cent planting. We knew the cost of unplanted spaces which, because of their scattered location through a crop, not only demand the same labor and materials as do the productive hills, but cause the potatoes grown to lack uniformity in size.

Gradual development of the machine design, however, has finally resulted, first, in a planter which can be converted from one type to the other by the mere changing of the feeder mechanism, and, secondly, in an automatic feeding device that comes the nearest in efficiency to the Assisted-Feed type of anything ever invented.

In this way it comes about that we are now putting before the potato growers of the country a choice of two planters, 75 per cent identical in construction and 100 per cent identical in their groundwork. The details of the IRON AGE ground performance are explained by the illustration on this page, and in connection with this we wish to call particular attention to the fact that the planting is directly between the wheels, following the rise and fall of the surface with them and assuring even depth of planting and covering. Particular attention is also called to the distribution of the fertilizer, not put under or over, but *alongside* the potato, where it is covered and thoroughly mixed with the soil by the splitting shoe that makes the groove in the bottom of the furrow where the potato seed sticks when it is dropped.

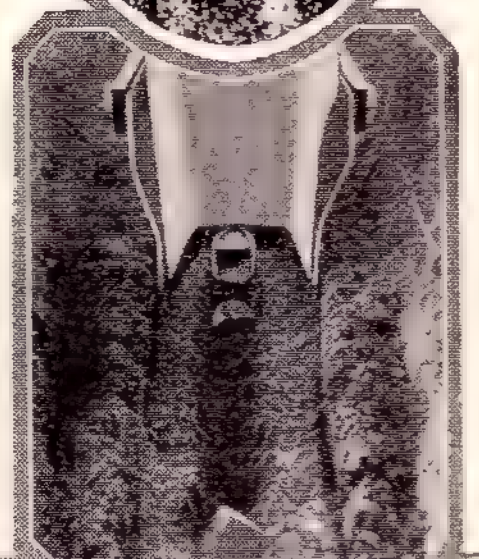
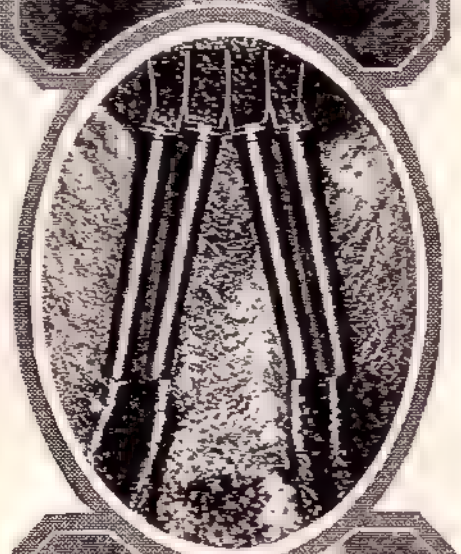
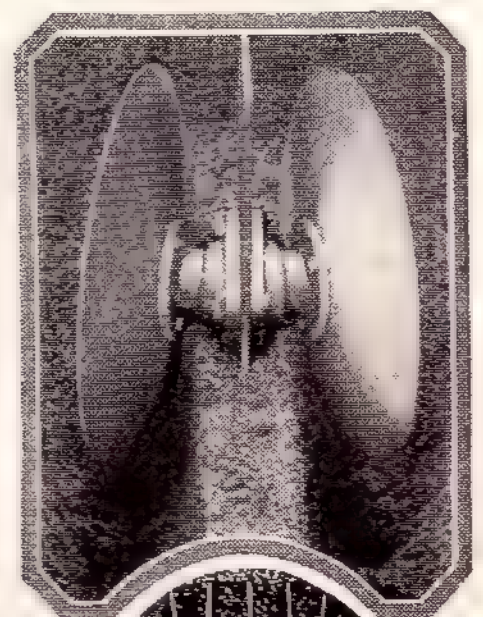
This Wonderful Groundwork has made the IRON AGE Planter Celebrated

1. OPENING PLOW. Leaves a small ridge down the middle of the furrow. Blade between discs holds all trash firmly against ground, helping disc to cut through easily, and to avoid clogging.

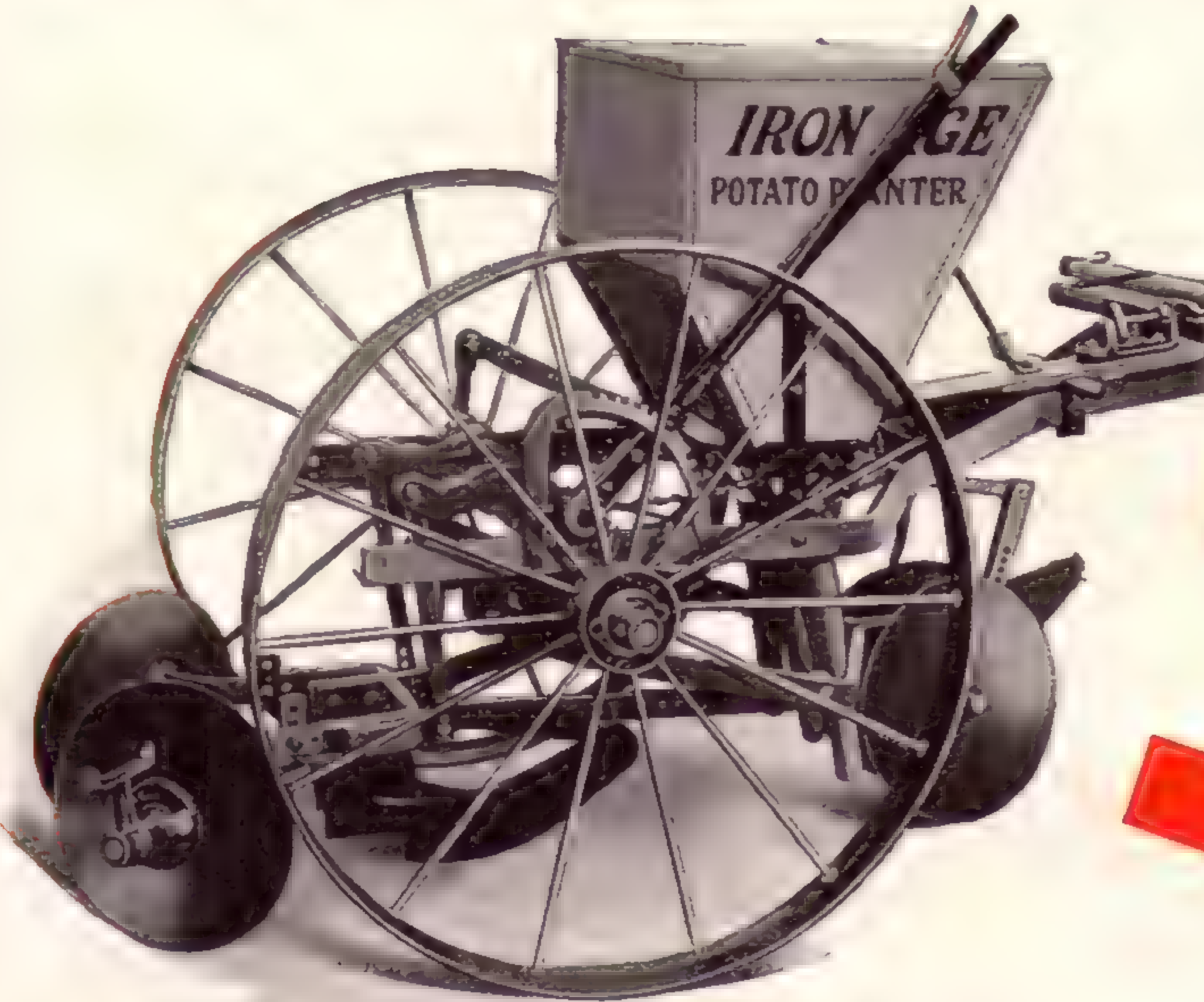
2. FERTILIZER TUBES. Four Unbreakable Adjustable Rubber Spouts spread fertilizer on each side of ridge as desired, where it is covered and mixed into the soil by shoe which follows.

3. PLANTING SHOE. Splits ridge, mixing fertilizer thoroughly with soil on each side. Makes groove for seed, which prevents it from rolling and places it where it cannot come in contact with fertilizer. Plants exactly in a straight line and at exact depth desired, saving hours of labor later when cultivating.

4. COVERING DISCS. Adjustable as to width, angle and depth. Make up ridge in any way desired. Insure perfect covering.



WONDERFUL GROUNDWORK, ACCURACY, INTERCHANGEABILITY MAKE THE IRON AGE POTATO PLANTER SUPREME



Complete Planter without Seeding Attachment

In addition to the remarkable groundwork of the Iron Age Potato Planter and its wonderful accuracy is the very important feature of interchangeability. Both styles of the Iron Age Planter are 75% identical. At any time the two-man Planter may be changed into the one-man style by merely obtaining Fig. 620 planting attachment shown here. Likewise, when

This Machine Plus This One-Man Attachment

The machines on this page are shown with the IRON AGE fertilizer distributor. The machines are furnished, however, either with or without this attachment, as desired.

This distributor is of the broad flat belt type, positive and accurate in feed, and the fertilizer is placed exactly where wanted by means of the movable rubber tubes extending to the ground.

If purchased without the attachment, it may be added later, if desired. The letter "R" added to the number indicates that the fertilizer distributor is wanted.

Plus This Attachment Makes



Fig. 619—Assisted-Feed Planting Attachment

This Two-Man Planter

depth adjustment beyond that furnished by the lever. The covering discs can be set for width, angle and depth. They can be made to cover and ridge as you desire. The distance between seed-pieces is regulated by the use of different sprockets, which are furnished. With these the distance can be made 10, 12, 14, 16 and 20 inches apart.

The fertilizer is regulated with great precision. The belt type fertilizer feed cannot choke or vary its feed. A simple but very practical row marker is supplied, and this can be quickly thrown over from one side to the other.

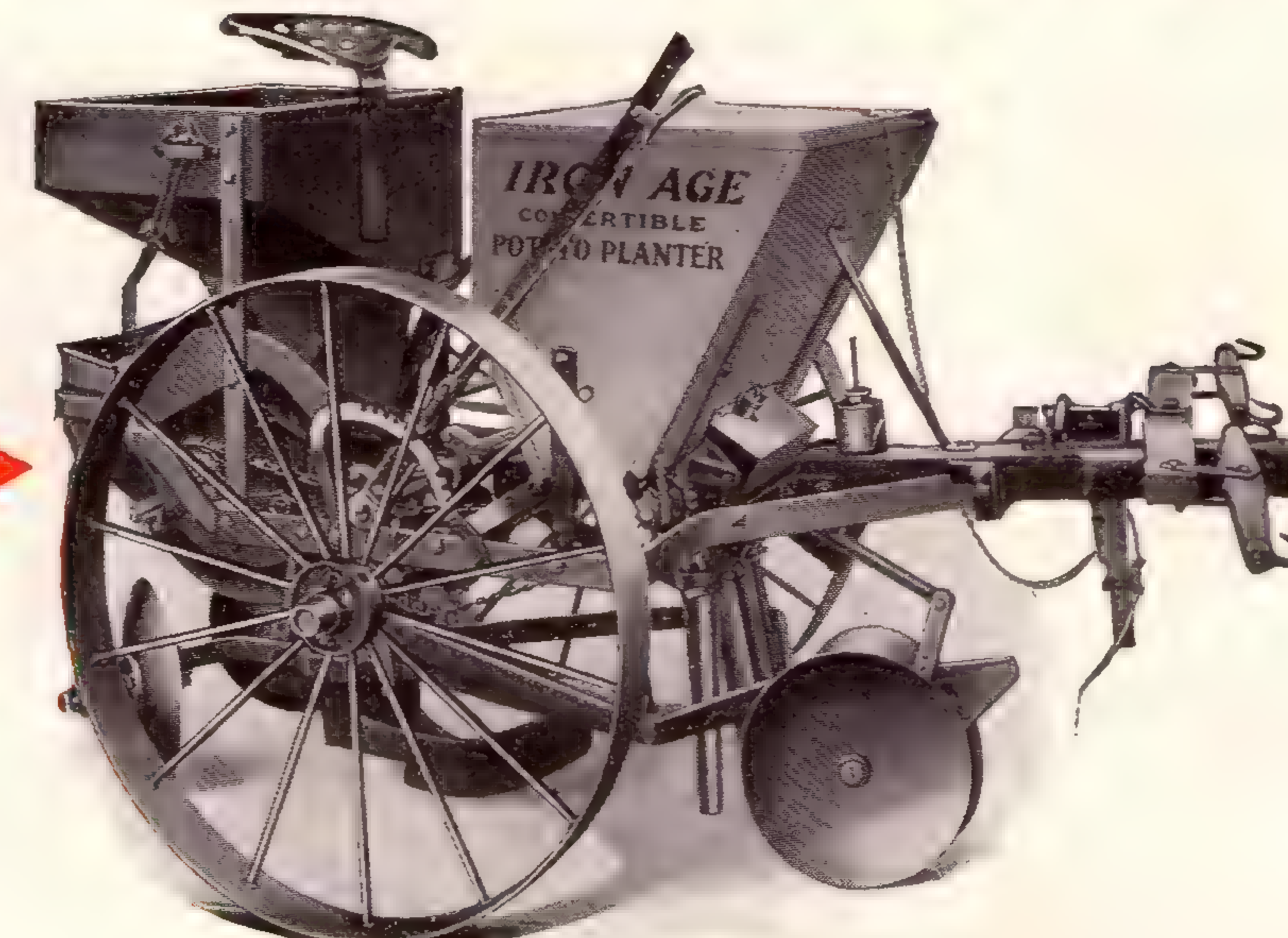
The IRON AGE Planter is constructed almost entirely of steel; wood or other materials being used only when some definite reason makes the planter better for their use.

seed is costly, or for other reasons the farmer who has an Iron Age one-man Planter wants a two-man or assisted-feed planter, he may have the great original Iron Age (Robbins) type planter by obtaining the two-man attachment, Fig. 619.



Fig. 620—Automatic Feed Planter Attachment

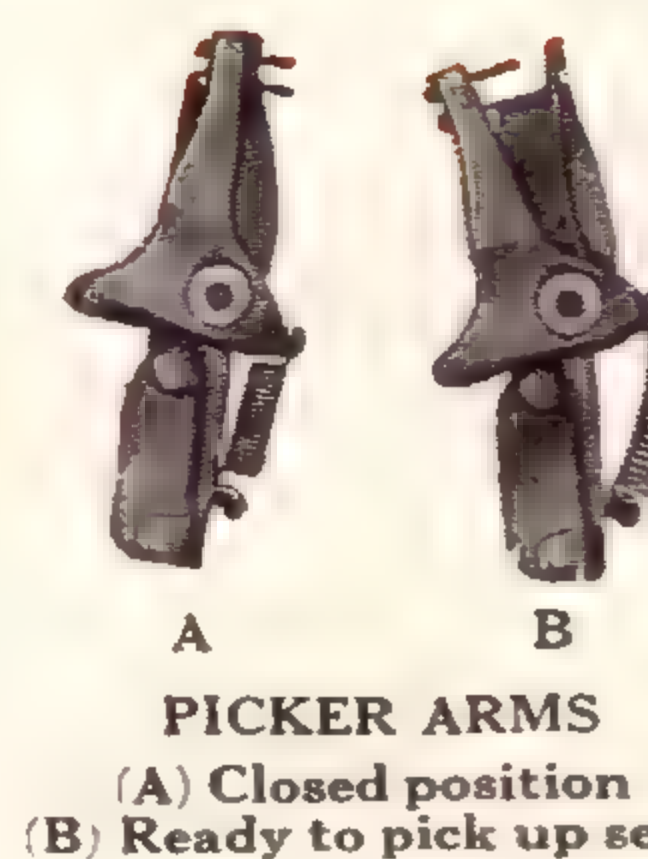
Makes This Automatic Planter



No. 401-R—Automatic Planter with Fertilizer Distributor

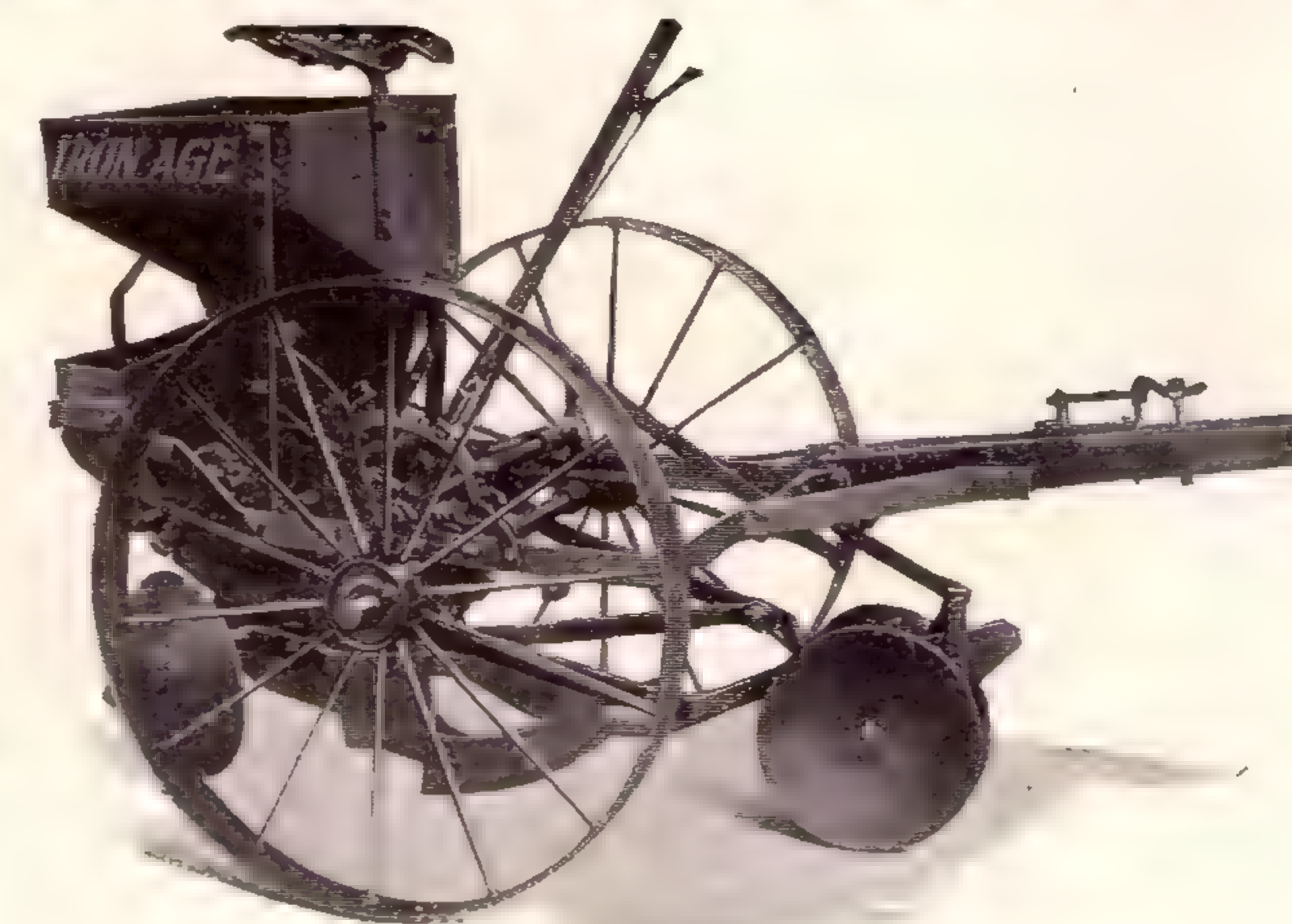
No. 401-R Automatic Planter

This machine differs from the No. 402 Assisted-Feed Planter only in its mechanical handling of the seed. The automatic feeding device, Fig. 620, used is the result of years of study and experiment, and until the principle used in this machine was developed, we never felt justified in offering an automatic feeder on our machines. We assure those who desire an automatic planter that the work it



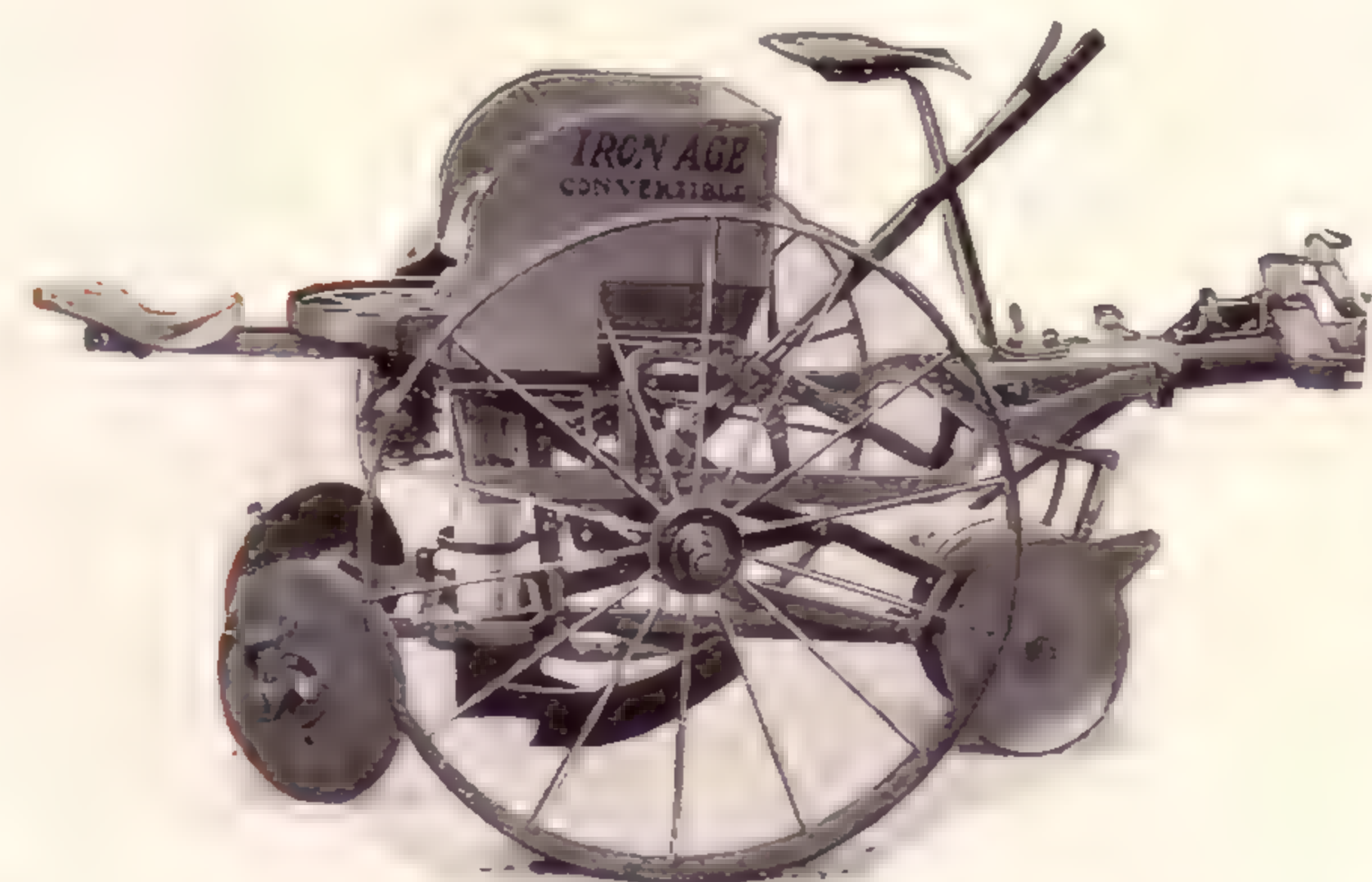
PICKER ARMS
(A) Closed position
(B) Ready to pick up seed

performs approaches a high standard never before attained by any other type of automatic feed. Naturally the more uniform the seed is cut the better work it will perform.



No. 401—Automatic Planter without Fertilizer Distributor

It is undoubtedly true that neither type of planter, Automatic Feed or Assisted Feed, can always be the most suitable for all farms or conditions, or conform to the personal likes or dislikes of every grower. Furthermore, conditions may change so that an automatic planter would be wanted where the Assisted Feed Planter had previously given excellent service, or through increased value of crop or price of land, the Assisted Feed would be wanted for its absolutely perfect 100 per cent planting in place of an automatic type of planter. *The IRON AGE is the only planter made that provides for ALL requirements.*



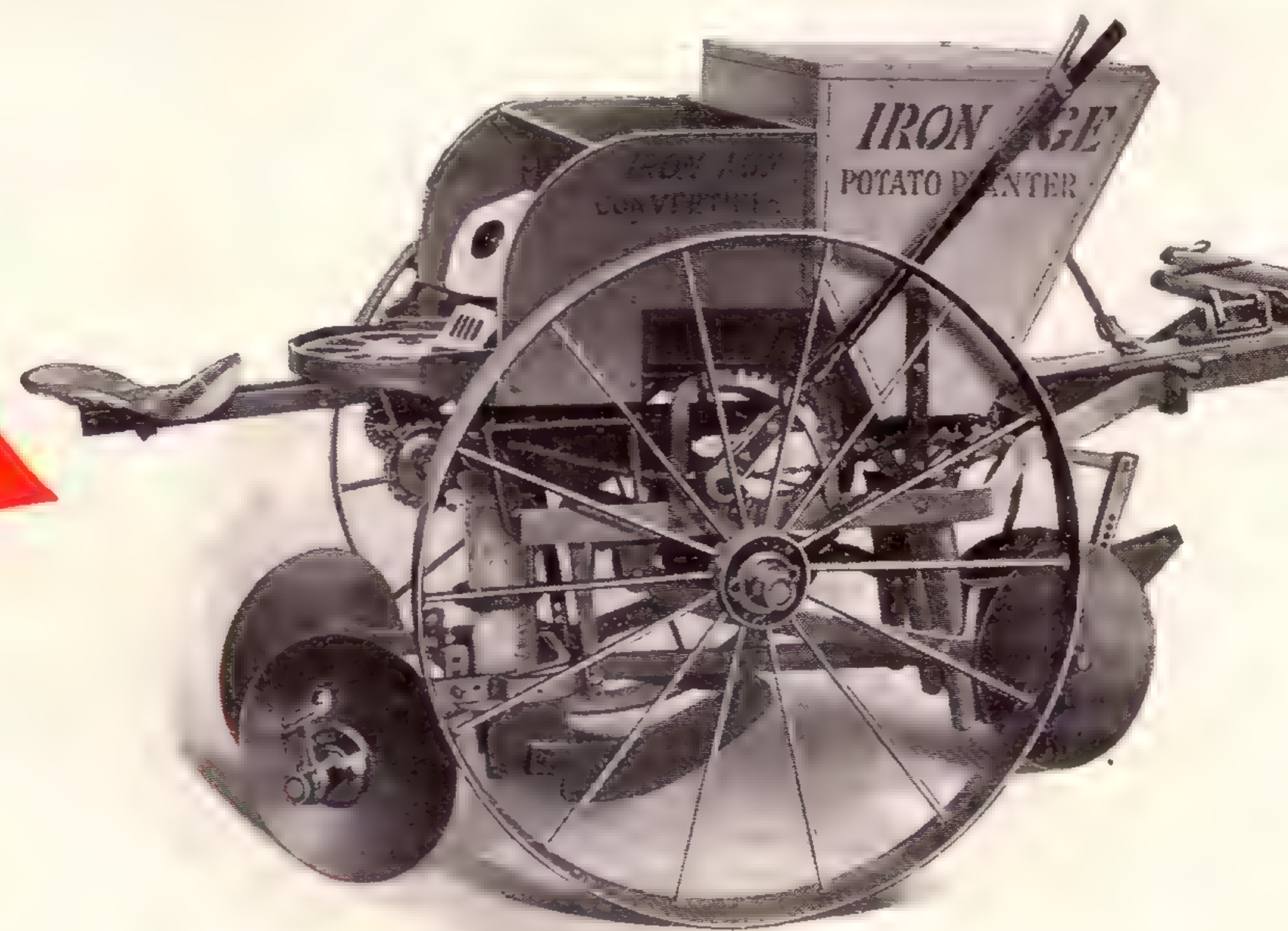
No. 402—Assisted-Feed Planter without Fertilizer Distributor

Combining 75 per cent of both types into the one machine dispels all uncertainty in regard to the choice of which type to use, simply because exchange to the other kind can be easily and quickly made at any time.

Every desirable adjustment is provided. Adjustable connecting links support the rear gang, furnishing a

No. 402-R Assisted-Feed Planter

All potato growers admit that for absolute accuracy in planting, nothing equals the IRON AGE Assisted-Feed or Two-Man Planter. In this machine, a helper seated on the rear inspects the planting of every piece, correcting all "doubles" and "misses," such as are sure to occur because of the variation in the size and shape of cuttings. This planter, except for certain improvements developed from time to time, is the same as manufactured by us since 1893, and is known wherever potatoes are grown.



No. 402-R—Assisted-Feed Potato Planter with Fertilizer Distributor

Fertilizer Distributor used on IRON AGE Potato Planters

The distributor used on IRON AGE Potato Planters has as its most striking feature a **FORCE-FEED BELT**. This belt carries the fertilizer in a broad, thin sheet under an adjustable gate, from which point it drops through movable or adjustable rubber tubes to the furrows made by the opening plow, directly ahead of a shoe which covers and mixes it with the soil. The amount of fertilizer permitted to pass through the gate is regulated by a single thumb-screw adjustment. This feed is positive. It cannot be clogged, because the belt forms a revolving bottom for the hopper, too wide to be bridged over by damp fertilizer. No lumps can pass beneath the gate to clog up the spouts. The rivets on the belt act as drags, cutting and grinding the lumps into fine powder. The belt is of heavy canvas, reinforced with steel cross-bars attached to sprocket chains on each side. The canvas is firmly riveted to this framework. All parts that come in contact with fertilizer are easily accessible for cleaning. The adjustable spouts are made of rubber, eliminating breakage, bending or rusting. Each spout is individually movable, and can be adjusted to any desired position.

Many farmers will find extensive use for this machine in making up fertilized rows in which to set plants or plant seed other than potatoes.

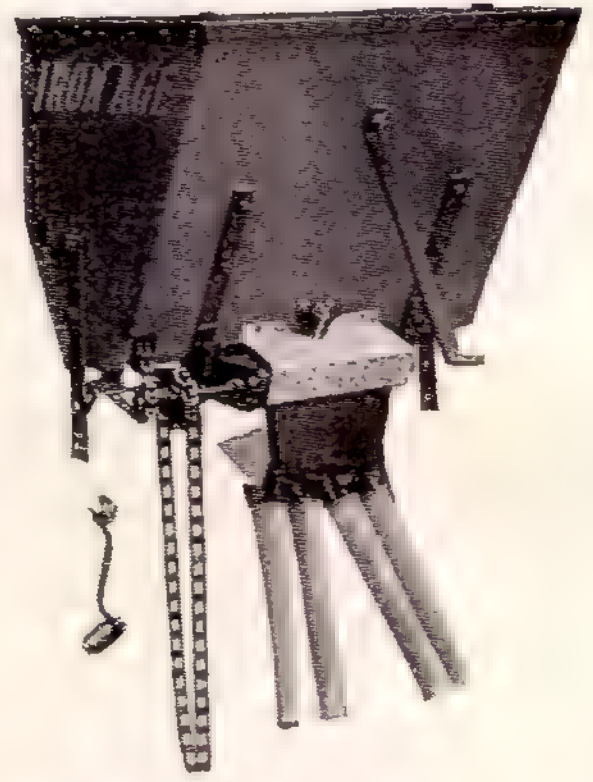


Fig. 618—Fertilizer Attachment ("McWhorter patent") with all parts for attaching to Nos. 401, 402 and 404 Planters

Fertilizer Attachment for Old Style IRON AGE Potato Planters

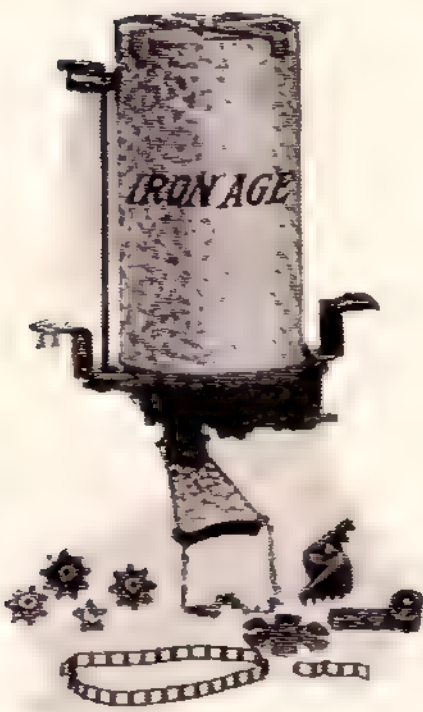


Fig. 458—Fertilizer Attachment

IRON AGE Potato Planters were formerly equipped with fertilizer distributors similar to Fig. 458 shown here. These distributors were used for many years on IRON AGE Planters and were so successful that there are many old customers who still want them. Also, there are a very large number of IRON AGE machines in use that no other distributor will fit.

These distributors are of the force-feed type, sowing all kinds of fertilizer thoroughly. A square vertical shaft with short steel cross-pins stirs the fertilizer, and a winged scraper placed on top of the fertilizer revolves, and drops by its own weight as the material is fed away, and the fertilizer then falls on the cone in light and loose condition. The cone throws the fertilizer out on a revolving disc, and a feed wheel carries it around to the gate opening and distributes it into the spout and down the spreader.

The amount of fertilizer to be sown is regulated by an adjustable gate, and the same lever which raises the gangs out of the ground also shuts off the fertilizer when turning at the ends of the rows. Fig. 458 will sow from 500 to 3000 pounds per acre, as adjusted, and depending on the width of rows.

Fig. 458 is manufactured to apply to old-style planters Nos. 400 and 404. We can also furnish it with different style hang-irons at slight increase in cost to apply to IRON AGE Planters Nos. 1, 2, 3 and 4, having cast iron frames and wood potato seed hoppers when specially ordered. We also are in position to furnish our present type of planters Nos. 401 and 402 with a fertilizer distributor similar in design to the above. When wanted, add letter "O" to the number; thus, No. 402-RO.

Accessories for IRON AGE Potato Planters

The Corn, Bean and Pea attachment, Fig. 267, is easily applied to all the No. 402 and 404 Two-Man Planters. This attachment sows peas in continuous rows or drops corn or beans in hills, 12, 14, 15½, 17, 18½ or 20 inches apart.

The Planter opens the furrow, spreads fertilizer, mixes it with the soil, makes the groove, sows seed and covers; also marks the next row;—once over does it all.

The application of a seed attachment is an exclusive feature of the IRON AGE Two-Man Planter, and it makes the machine doubly valuable to gardeners and others who raise other crops aside from potatoes that are planted in rows.

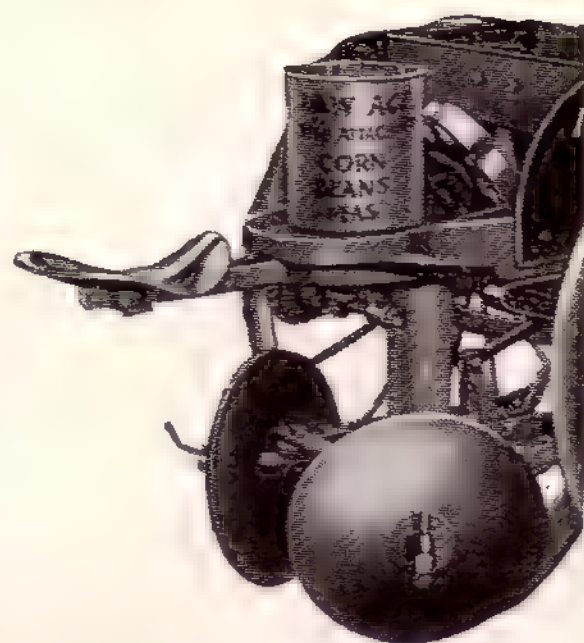


Fig. 267—Corn, Bean and Pea Attachment

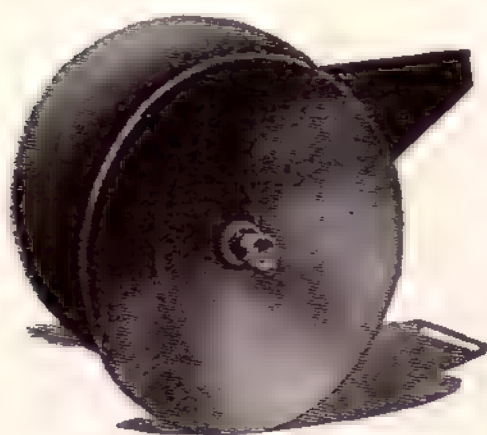


Fig. 587—Combined Shield and Disc Opening Plow



Fig. 576—Shield Opening Plow



Fig. 142—Single Disc Opening Plow

Opening Plows

Fig. 587. Combined Shield and Double Disc Opening Plow. The opening plow regularly furnished with IRON AGE Planters unless some other type of plow is specified. This opening plow consists of a steel shield which divides the soil for the discs and assists in disposing of trash by pushing it down and forcing it into the soil.

Fig. 576. Shield Opening Plow. Consists of a wide flat steel shield which cuts through trash and prevents it from clogging the plow; also divides the soil for the plow. Recommended for use in stony conditions, especially where there are fast rocks, as the shield rides up over them like the bow of a boat and prevents damage to the machine, as it warns the driver to release the lifting lever. When planter is wanted equipped with this style plow, add the letter "S" to the number; thus, No. 402-S.

Fig. 142. Single Disc Opening Plow. Consists of a plow preceded by a single cutting disc. Intended for trashy ground covered with long vines, etc. The disc does a good job and eases the draft for the plow. When planter is wanted equipped with this style plow, add letter "A" to number; thus, No. 402-A.

Tractor Hitch for Potato Planter

To meet the demand of users of the IRON AGE Potato Planter who desire to draw their machines with a tractor instead of horses, we are prepared to supply same with the Tractor Hitch as shown in Fig. 611. It is designed in such a manner as to make it applicable to practically all the different style tractors. Made of steel, has a wide range of adjustment and is strongly constructed. We are prepared to furnish this hitch without extra cost in substitution for the tongue, double-tree and neck-yoke which are regularly furnished with the horse-drawn planter.

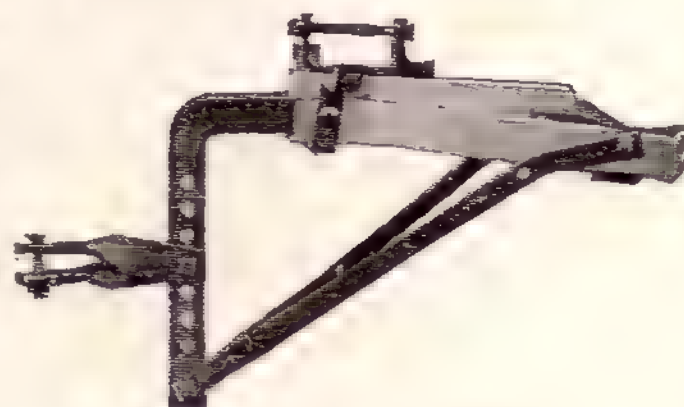


Fig. 611—Tractor Hitch

Traction Sprayers

For Potatoes, Celery, Cucumbers, Tomatoes,
Beans, Sugar Beets, Alfalfa, etc.

IRON AGE Sprayers are the result of twenty-three years of experience and experimental work devoted to crop preservation. They are designed by skilled engineers and are constantly in use on our own farms. Furthermore, ninety years of experience in making farm, garden and orchard implements are back of every IRON AGE Sprayer as made today.

These machines have capacity, power and a range of adaptability to suit practically every spraying need; the best pumps on any line of sprayers made, and every modern convenience for easy working.

Many advantages over all other traction sprayers are possessed by the Nos. 354 and 357 machines shown here, but the greatest outstanding feature is probably the exceptionally high pressure which they deliver without unduly increasing the draft. High pressure makes the IRON AGE a highly successful fighter against not only the leaf-eating insects but against fleas and such pests that stay mostly hidden underneath the foliage and against blight and numerous similar diseases. High pressure atomizes the spray into a regular cloud of fog, completely surrounding and saturating every leaf and hiding place of insect and disease. With it, materials cover more—and are correspondingly more economical.

The photographs below show the wide range of adaptability of our No. 357 Traction Sprayer. The one on the left was taken in Nevada spraying alfalfa,



Traction Sprayers (Continued)

equipped with the "E" or Alfalfa Spray Bar. The one on the right in Colorado spraying sugar beets, equipped with the "C" or Sugar Beet Spray Bar, and the one at the bottom taken in Maine spraying potatoes, equipped with the "L" or Potato Spray Bar.

No problem in spraying is too hard for us to undertake, and if none of our standard spray bars as shown on Page 37 will fit your needs, we have other "special" bars which may. If you will write us what crop you wish to spray, we will gladly give you the benefit of our experience.

Combining the IRON AGE high pressure advantage with the wonderful adaptability of the various spray bars invented for use with

it, the farmer has a machine that will do the most perfect job of spraying he could desire.

Add then, to all that, the many advantages possessed by the IRON AGE Triplex and Duplex pumps, the IRON AGE Pressure Retaining and Pump Releasing System, the round tank, the easily-handled two-big-wheel design, and you have a traction sprayer unapproached by anything on the market today.

So completely different from all other sprayers is the IRON AGE it is necessary for a man to go over the entire machine very thoroughly, detail by detail, before he can appreciate the wonderful progress in the fighting of plant enemies that it represents.

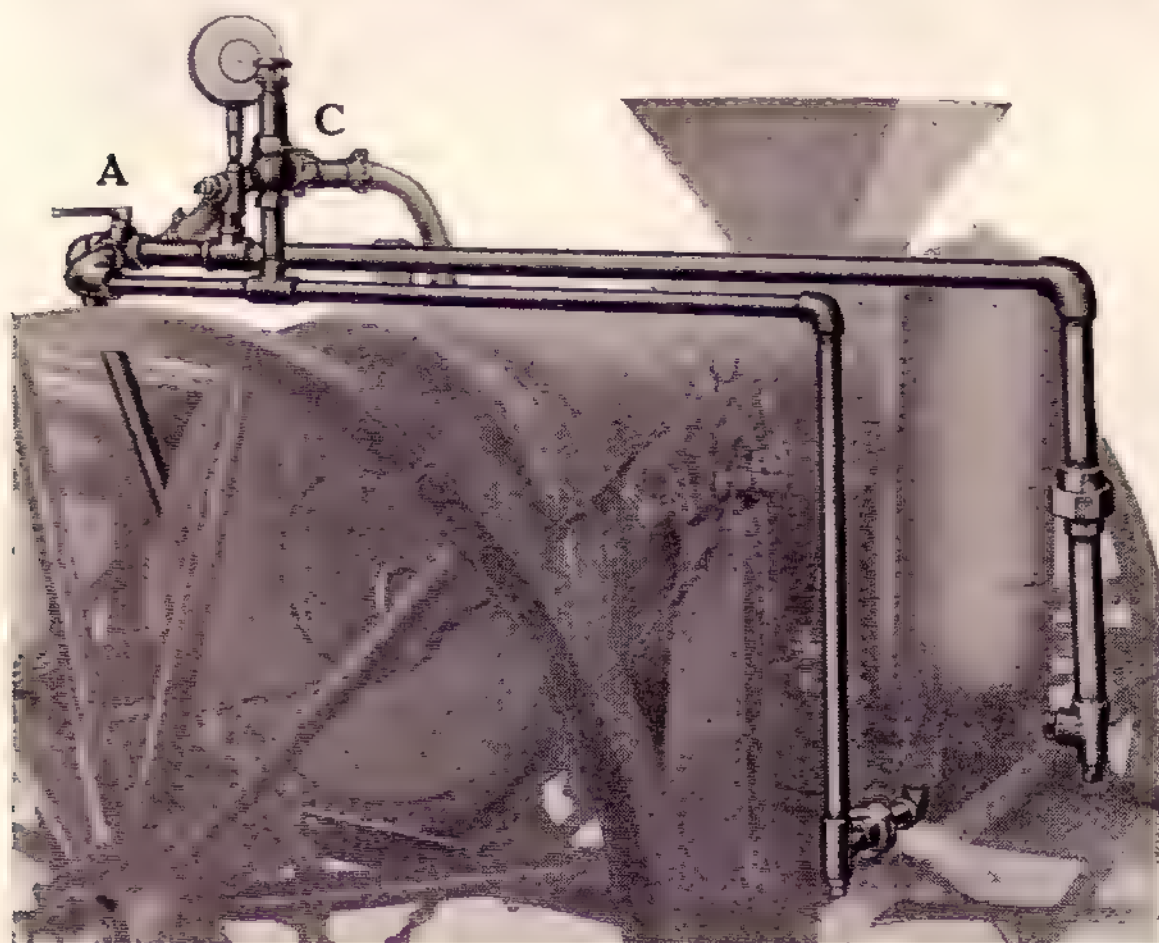
IRON AGE Pressure Retainer and Pump Relief

One of the greatest single steps ever made in traction sprayer development was the Pressure Retaining System invented recently by IRON AGE engineers. This invention consists chiefly in an ingenious system of piping which takes the pressure off the pump and retains it at full strength for use the instant the operator turns on the nozzles. This invention is much more than a Relief Valve because it not only provides relief from excessive

pressure but locks the pressure in the Compression Chamber when the spraying is turned off, making easy turning at ends of rows and having the full pressure ready the same instant the solution is turned onto the rows again.

When the operator shuts off the spray with Stop Cock "A" (see cut below) the pressure is held in the compression chamber by the stop cock and ball check valve in bottom of the chamber, which closes automatically. When thus turned off from spray bar, the solution merely flows through another pipe "C" crosswise through the four-way cock "A" and back into the tank without pressure. When in the course of operation the pressure becomes excessive Relief Valve "C" operates, permitting the surplus to flow back through the Relief Valve into tank.

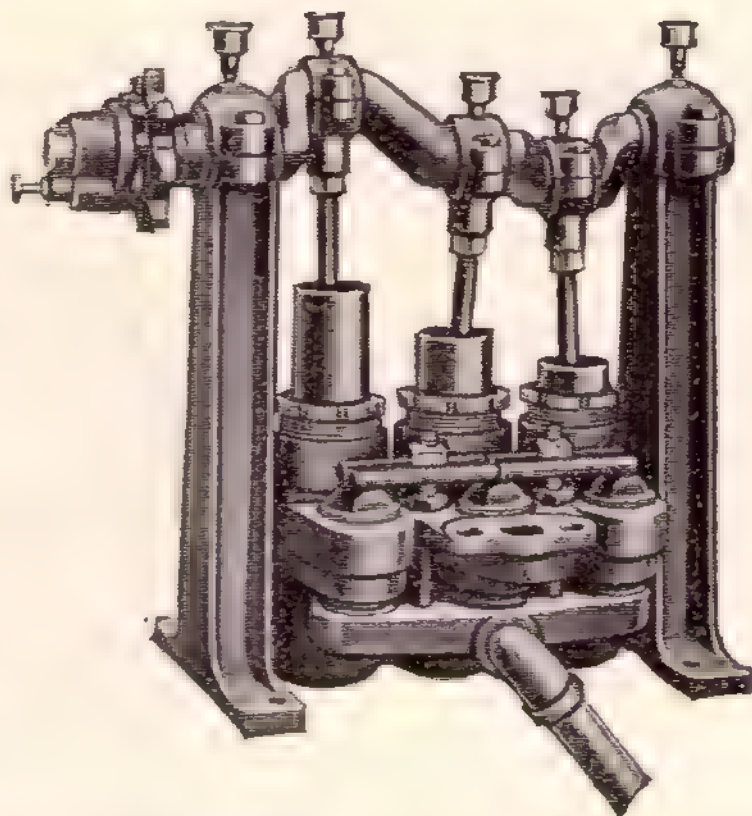
A gauge, conveniently placed, shows the pressure at all times. The Relief Valve is easily regulated by adjustable spring pressure.



Traction Sprayers (Continued)

Vertical Duplex and Triplex Pumps

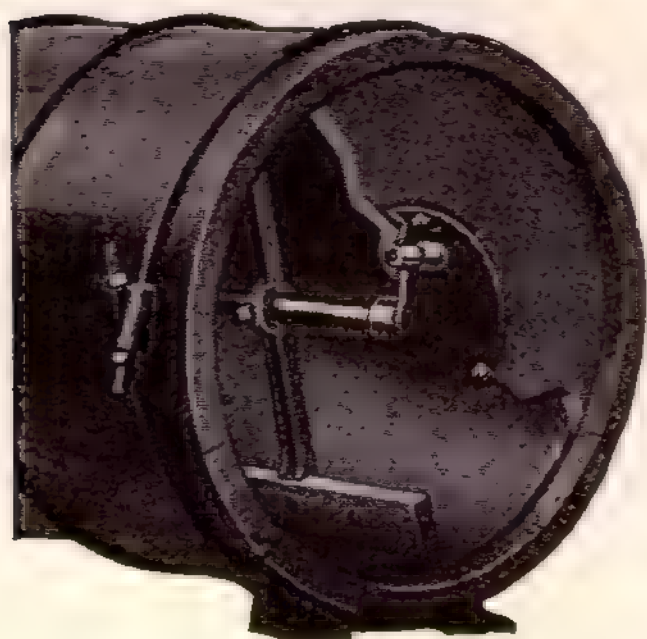
The new IRON AGE Duplex (two-plunger) and Triplex (three-plunger) Pumps used on the more recent models of IRON AGE Sprayers are a great advance over any heretofore offered. The frame is made of gray iron, in one piece, with valve chamber. The crank is drop-forged, $1\frac{5}{16}$ -inch diameter and accurately machined. All bearings are babbitted; crank and counter shaft bearings self-aligning and cheaply renewed. All parts are easily accessible. The plungers are $2\frac{1}{4}$ -inch hard-drawn brass; 3-inch stroke.



IRON AGE Sprayer Pumps are very different from those in use on other sprayers. Years ago we found that, owing to the highly corrosive and wearing nature of spraying solutions, it was necessary to get away from the usual type of smooth-bored cylinder with plunger leathers and rubbers which can only possibly last a short time. Our experiments resulted in a type of pump which has retained its chief principles for a number of years, principles which have been further used in our latest types—the IRON AGE Duplex and Triplex Vertical Pumps. Most pumps have brass or porcelain-lined cylinders; IRON AGE pumps practically have no cylinders, as they get their pumping capacity from a hollow brass plunger which passes through a stuffing-box. Cylinder pumps require some soft substance such as leather or rubber on the plunger to get suction, and this soft substance never withstands the corroding effects of the strong chemicals very long. It hardens and wears, quickly lowering the efficiency of the pump. On the IRON AGE Pump, however, such troubles are entirely avoided because a tight stuffing-box has nothing about it to corrode, harden, or in any way reduce the suction and power. The plunger touches only the packing and there is practically no friction at all. The packing is hemp with lead core—it wears well, cannot harden, is easily removed and costs little to renew. Note how easily it is replaced—unscrew the stuffing-box nut, pull the gland back and take out old packing which is in rings. Put in the new packing and screw nut up tightly.

Cylindrical Tanks

IRON AGE Sprayers have cylindrical tanks, either wood or steel. This is a matter of very great importance for several reasons. First, the round tank permits the use of the large dasher, revolving close to the sides and bottom. Spraying solutions generally carry a large amount of heavy solid matter that quickly settles to the bottom unless constantly stirred up by direct action of the agitator. Perfect agitation is very important because the quality of the job is largely dependent upon uniform proportion of the spraying solutions. Constant mixing permits the use of strong mixtures, as all plants get the same strength of dose. Another advantage of the cylindrical tank lies in the fact that the round top prevents splashing, therefore when you buy a 100-gallon



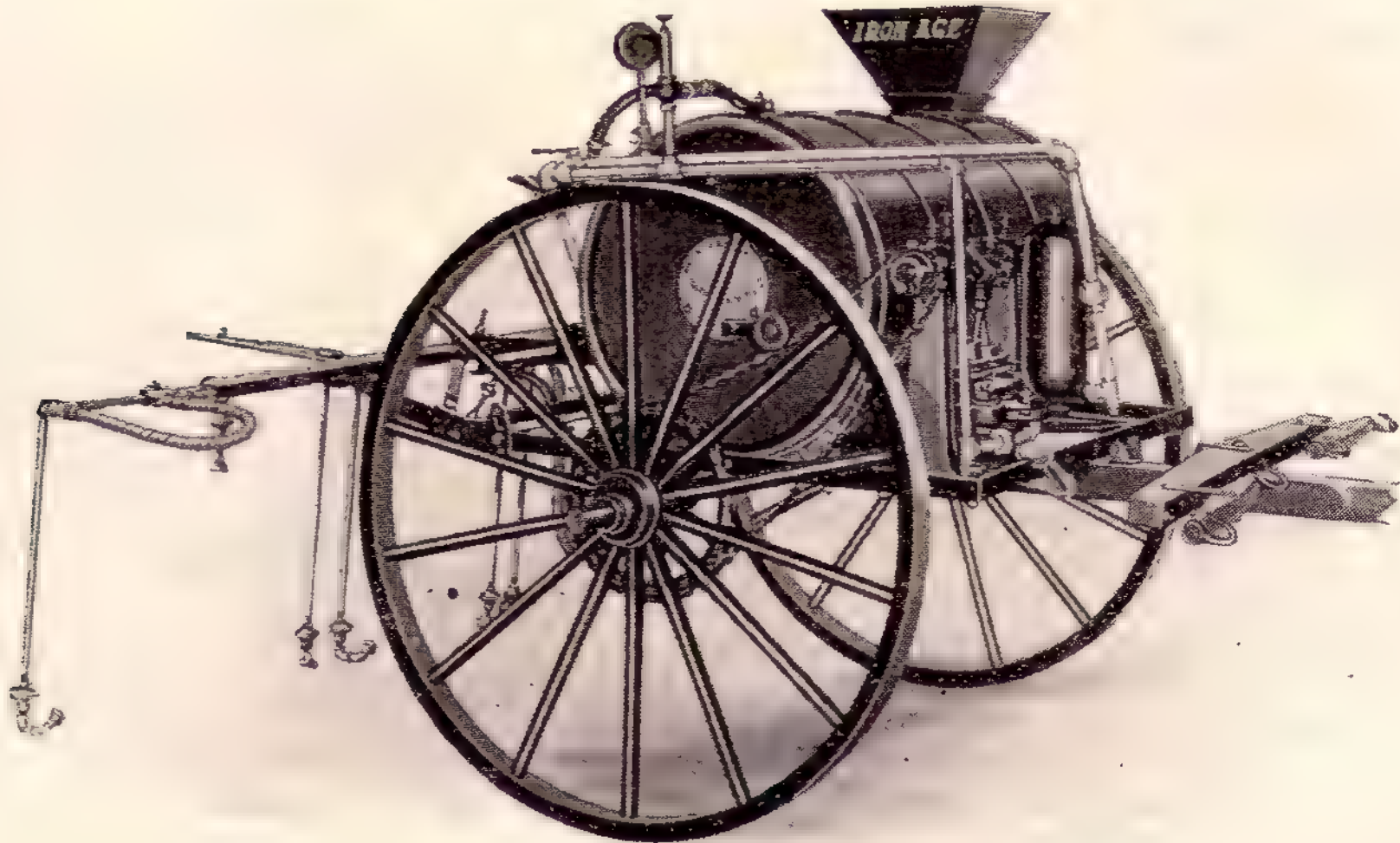
IRON AGE Sprayer you get an actual carrying capacity of 100 gallons and are neither actually loading 25 or more gallons less solution than calculated nor hauling extra tank weight. Round tanks are the easiest to keep tight—IRON AGE Wood Tanks are fitted with adjustable round bar hoops.

They are made of the best grade $1\frac{1}{4}$ -inch cypress—"the wood eternal"—carefully selected, well finished, and attractively painted.

A reversed intake prevents sediment from settling in the outlet pipe and clogging it. All tanks are provided with handhole, large square wood funnel with strainer, and cleanout plug.

They are $51\frac{1}{2}$ inches long and $26\frac{3}{4}$ inches in diameter.

No. 357 Traction Sprayer



Here is the best traction sprayer that our many years' experience has taught us how to make. It has all the strong IRON AGE features, the new TRIPLEX Pump, the new IRON AGE Pressure Retainer and Pump Relief, 100-gallon cylindrical tank, that can be filled to capacity without splash. The round tank also permits use of large agitator that works close to bottom, keeping solutions thoroughly mixed all the time. The TRIPLEX PUMP will deliver a pressure from 200 to 225 lbs., depending on speed of team, also size of disc used in nozzles. Width of rows adjustable to 28, 30, 33 and 36 inches. A wide bar can be obtained to spray rows 34, 36, 39 and 42 inches apart by adding letter "B" to the number.

Aside from the bar shown here, there are several other IRON AGE Spray Bars that may be used on this machine. These bars are shown on page 37.

Specifications

Pump: IRON AGE TRIPLEX, driven from the wheels by traction, has three $2\frac{1}{4}$ inch diameter cylinders; 3 inch stroke; 55 revolutions per minute (speed of average team); 7 gallons capacity per minute at 225 lbs. pressure.

Agitator: Revolving paddle wheel, working close to bottom and sides.

Tank: Capacity, 100 gallons. $51\frac{1}{2}$ " long and $26\frac{3}{4}$ " in diameter. Selected $1\frac{1}{4}$ " Gulf cypress free from knots. Five $\frac{3}{8}$ " round hoops with take-up lugs. We are also prepared to furnish this sprayer with a galvanized steel tank of the same capacity, when specially ordered.

Frame: Angle steel, thoroughly braced, riveted and bolted.

Wheels: Wood. Diameter, 50 inches; tires, $3'' \times \frac{1}{4}''$; 14 spokes, selected hickory. When specially ordered, we will supply steel wheels of the same size.

Axle: $1\frac{3}{4}$ " in diameter; 78 inches long.

Pole: Selected Long Leaf Yellow Pine.

Spray Bars: No. 357L Sprayer equipped with the "L" or four-row drop-nozzle bar. No. 357F Sprayer equipped with regular bar to spray 8 rows, 33 inches apart. No. 357M Sprayer equipped with 6-row double row bar (Maine type). No. 357C Sprayer equipped with Sugar Beet Spray Bar. No. 357E Sprayer equipped with Alfalfa Spray Bar. No. 357T Sprayer equipped with Tomato Spray Bar.

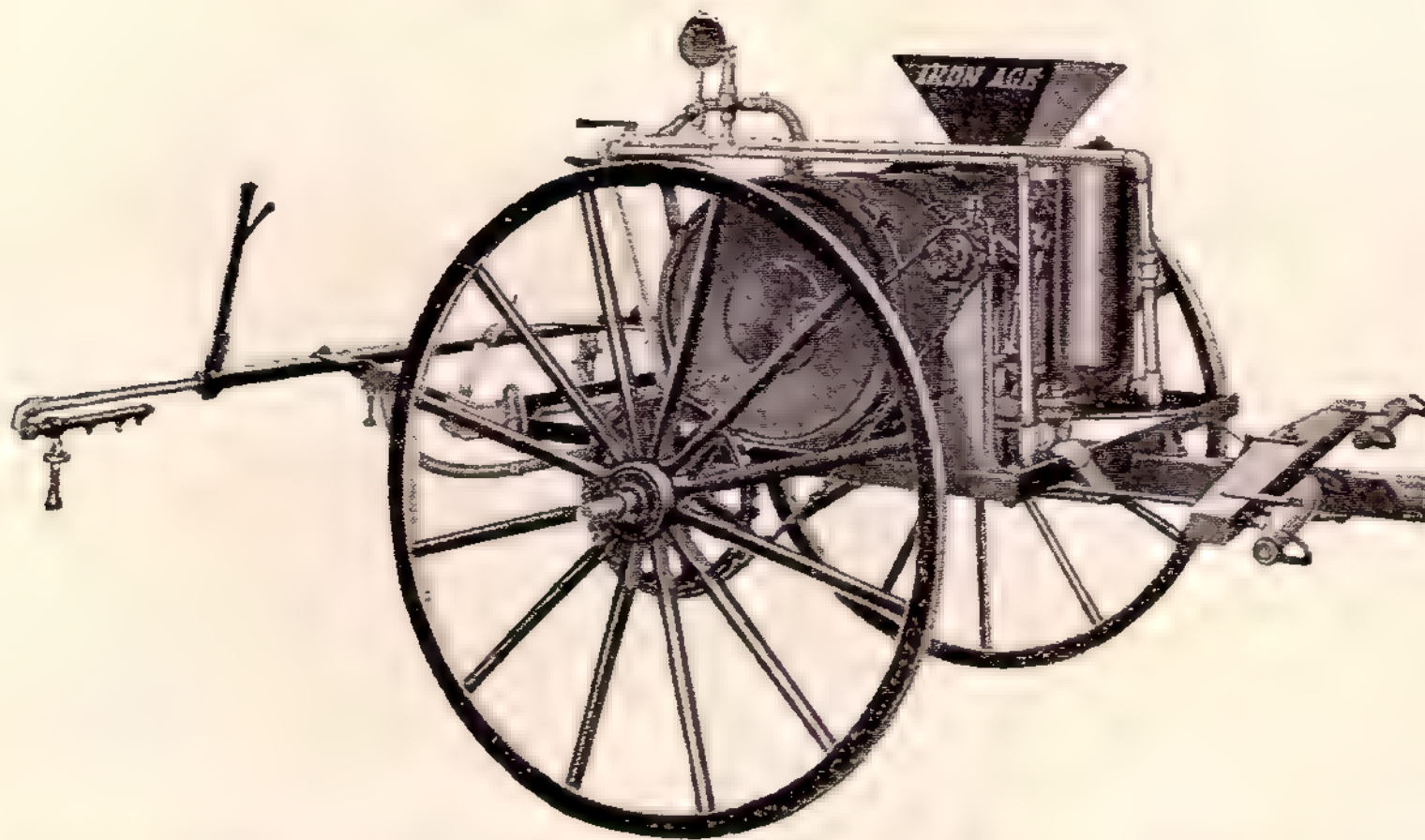
Nozzles: IRON AGE (see page 36), each equipped with strainer.

Weight: 975 lbs.

Accessories: Relief Valve, pressure gauge, box strainer, pole, neckyoke and eveners, oil can and holder, wrenches, etc.

Finish: Frame, painted black; Tank and Pump, green; Wheels, yellow.

No. 354 Traction Sprayer



The No. 354 is another type of the IRON AGE Traction Sprayer, smaller in tank capacity and operating under less pressure than the No. 357. It has the IRON AGE Duplex Pump, and the IRON AGE Pressure Retainer and Pump Relief System described on page 32. The tank has ample capacity for 55 gallons. A great favorite for use where water is not far away, where the land is hilly or hard to get over, where the area is small and a lower price machine is desired. It develops, with the use of four nozzles, 200 lbs. pressure, and as regularly furnished will spray four rows of potatoes or similar crops with one nozzle to the row, or two nozzles may be applied by the use of four Y's, and with eight nozzles with No. 0 discs will also develop 200 lbs. pressure. The bars shown on page 37 are suitable for use with this machine, but the pressure with all these except the four-row bar, Fig. 615, will necessarily be less with the Duplex Pump than with a Triplex Pump. With 12 nozzles having No. 0 discs a pressure of 150 lbs. may be maintained.

Specifications

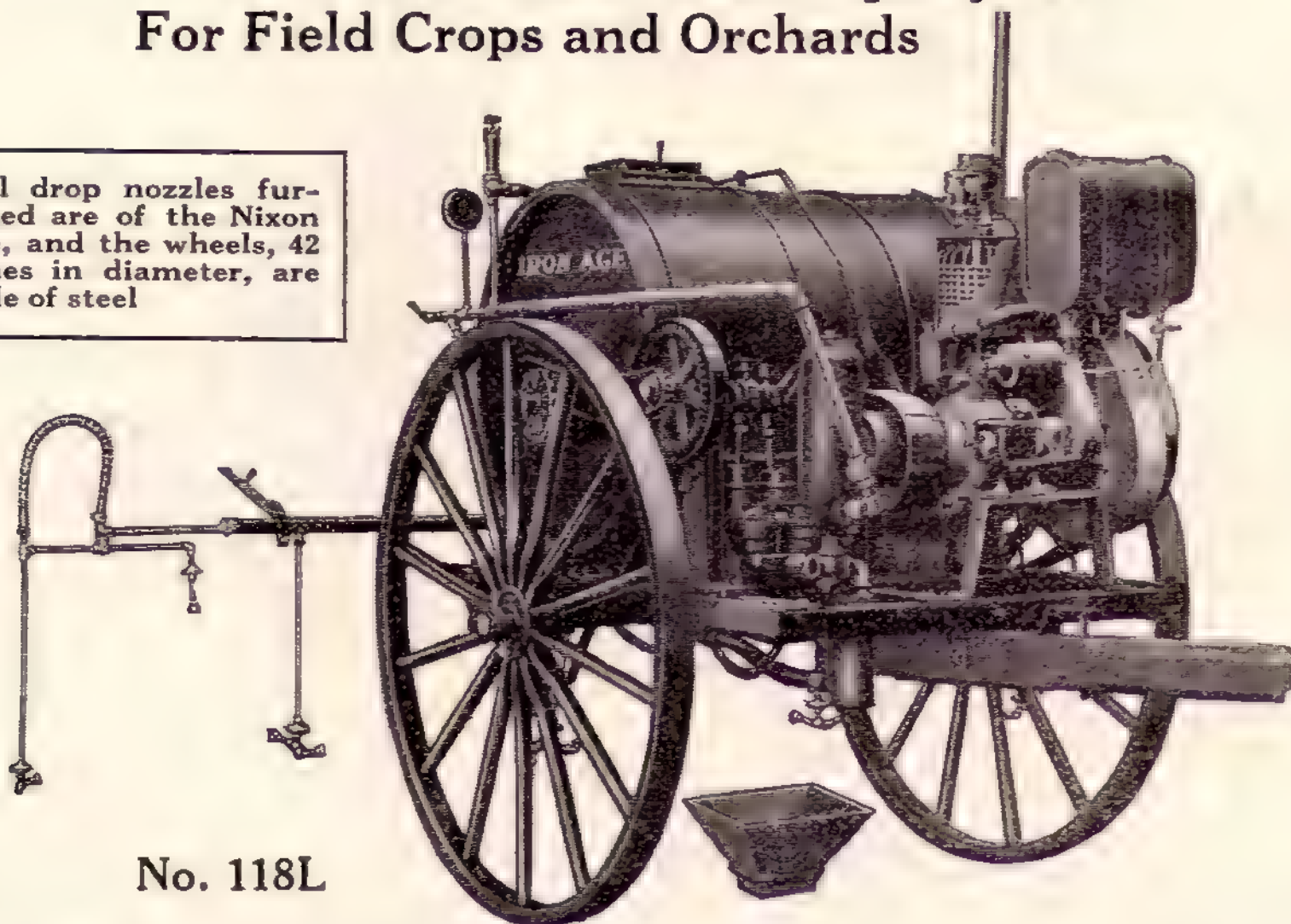
- Pump:** IRON AGE Duplex, driven from the wheels by traction. Has two $2\frac{1}{4}$ " diameter cylinders; 3" stroke; 55 revolutions per minute (speed of average team); 5 gallons capacity per minute at 200 lbs. pressure.
- Agitator:** Revolving paddle wheel, working close to bottom and sides.
- Tank:** Capacity, 55 gallons. $51\frac{1}{2}$ " long and 20" in diameter. Made of selected $1\frac{1}{4}$ " Gulf Cypress, free from knots. Five $\frac{3}{8}$ " round hoops with take-up lugs.
- Frame:** Angle steel, thoroughly braced, riveted and bolted.
- Wheels:** Wood, diameter 50 inches; tires, 3 inches; 14 spokes. Adjustable from 64" to 72" outside measurement.
- Axle:** $1\frac{3}{4}$ " in diameter; 78" long.
- Pole or Shafts:** Always furnished with pole except as otherwise ordered. If wanted with shafts add letter S to the number—thus 354S.
- Nozzles:** IRON AGE, each equipped with strainer (page 38).
- Weight:** 800 lbs.
- Accessories:** Relief Valve, pressure gauge, box strainer, pole, neckyoke and eveners, oil can and holder, wrenches, etc.
- Finish:** Frame, painted black; Tank and Pump, green; Wheels, yellow.

Spray Bars

If a different style spray bar is wanted than shown in the illustration of the machine, the style is designated by the addition of the letter indicating the spray bar—thus 354L, etc.

Two-Wheel Power Sprayers For Field Crops and Orchards

All drop nozzles furnished are of the Nixon type, and the wheels, 42 inches in diameter, are made of steel



No. 118L

This machine is the ideal sprayer not only for such crops as potatoes, celery, cucumbers, tomatoes, beans, etc., but is also an excellent type of machine for use in orchards, as it delivers the same high pressure as the four-wheel power orchard sprayer. For spraying on hilly farms this machine maintains uniform pressure at all times.

Mounted on two wheels it can be turned short and managed easily where four-wheel sprayers would not pass. It is equipped with a 5 H. P. "New Way" air-cooled engine, developing a pressure of 300 lbs., the high pressure recommended by experts in crop preservation.

The bars shown on page 37 are all suitable for the No. 118, a specially valuable form being the "L" bar shown on the machine above. The spray bar may be removed and an orchard attachment with spray guns or rods put in place, making the machine a highly efficient sprayer of fruit trees, vineyards, etc.

Other features explained in detail on other pages are the IRON AGE Triplex Pump, the Round Tank, etc. A reversed intake prevents settling in the outlet pipe. A sediment chamber and strainer outside of the tank re-strains all solution before it passes into the nozzles. Easily taken apart to clean. Large handhole gives easy access to tank at all times.

Specifications

Pump: IRON AGE Triplex, driven by 5 H. P. "New Way" engine, has three $2\frac{1}{4}$ " diam. cylinders, 3" stroke and revolves at about 55 revolutions per minute. With engine running at maximum speed of 900 revolutions per minute the pump delivers 12 gallons per minute under a pressure of 300 lbs.

Agitator: Revolving paddle wheel working close to bottom and sides.

Tank: Capacity 100 gallons. 39" long, 32" in diam. Select $1\frac{1}{4}$ " Gulf cypress free from knots. Four $\frac{3}{8}$ " round hoops with take-up lugs.

Frame: Angle steel, thoroughly braced, riveted and bolted.

Wheels: Steel, diam. 42". Tires 4" x $\frac{1}{4}$ ". 20 staggered spokes. Hubs with roller bearings.

Axle: $1\frac{3}{4}$ " diam., 78" long.

Pole: Select long leaf yellow pine, extra heavy.

Spray Bars: Any bar shown on page 37 can be applied to this machine. (No. 118L Sprayer shown above, "L" or 4-row drop nozzle bar, Nixon type.) If any other bar is wanted indicate by adding the letter which indicates the bar to the number of the machine, thus: No. 118T would indicate that the tomato bar is desired.

Nozzles: IRON AGE shown on page 38. Each nozzle equipped with strainer.

Weight: With engine, 1525 lbs.; without engine, 1150 lbs.

Accessories: Pump Governor, Pressure Gauge, Box Strainer, Neckyoke and Evener, Oil Can, Wrenches, etc.

Finish: Frame painted black. Tank, green. Pump, green. Wheels, yellow.

Spray Bars

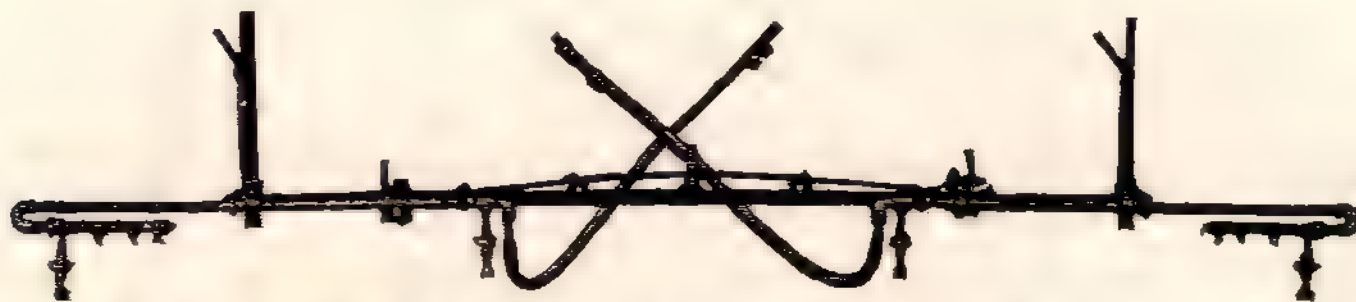


Fig. 615. Four-Row Spray Bar. 4 Nozzles—4 rows. Used on No. 354 Sprayers. Is adjustable to rows 28, 30, 33 or 36 inches apart.*

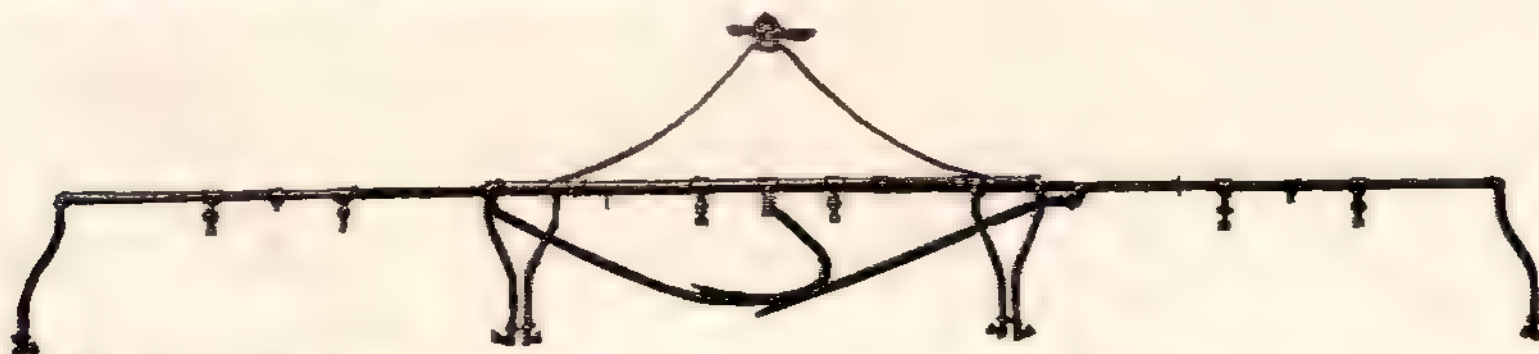


Fig. 622. "T" or Drop-Nozzle Tomato Bar. 9 and 12 Nozzles—3 rows. Is adjustable to rows 5 and 6 feet apart, and for both small and large vines.



Fig. 613. "L" or Nixon type Drop-Nozzle Bar. 12 Nozzles—4 rows. For spraying underneath as well as on top of plants. Is adjustable to rows 28, 30, 33 or 36 inches apart.*



Fig. 616. "M" or Maine Bar. 12 Nozzles—6 rows. Adjustable to rows 28, 30, 33 or 36" apart.*



Fig. 586. "C" or Brighton Bar for Sugar Beets. 12 Nozzles—sprays 12 rows 20 inches apart.

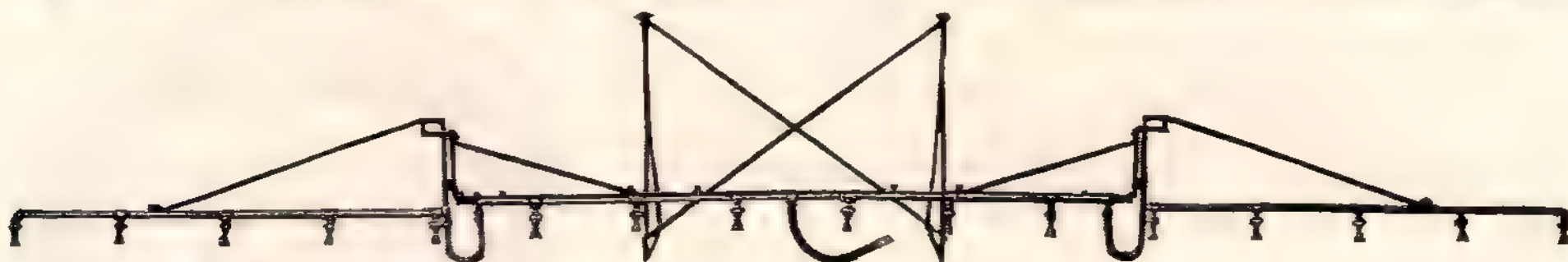


Fig. 614. "E," Alfalfa or "Solid-Surface" Bar. 16 Nozzles—sprays 24 feet wide.

* At the same price a wider bar and longer axle can be furnished to spray rows 34, 36, 39 or 42 inches apart, by adding letter "B" to the number of the machine, as No. 354-B.

Sprayer Accessories

Filling Attachment

We show in Fig. 617 an illustration of our Tank Filling Attachment which we offer to the trade, in general, for the first time. It has been used with very satisfactory results and we recommend it to all of the users of the IRON AGE Traction Sprayers who desire a tank filling attachment. It is used principally by those who have access to irrigation ditches and streams of water convenient to the fields where the spraying is to be done. The suction hose is 20 feet long and 2 inches in diameter, and the discharge hose is 6 feet long and 1 inch in diameter. You will note it is of large capacity, and since it is a double acting pump, it only requires a few moments' time of the operator to fill the tank. We call your attention to the fact that it has a rolling motion cog gear and this materially reduces the amount of labor required—a thoroughly practical and labor-saving attachment.

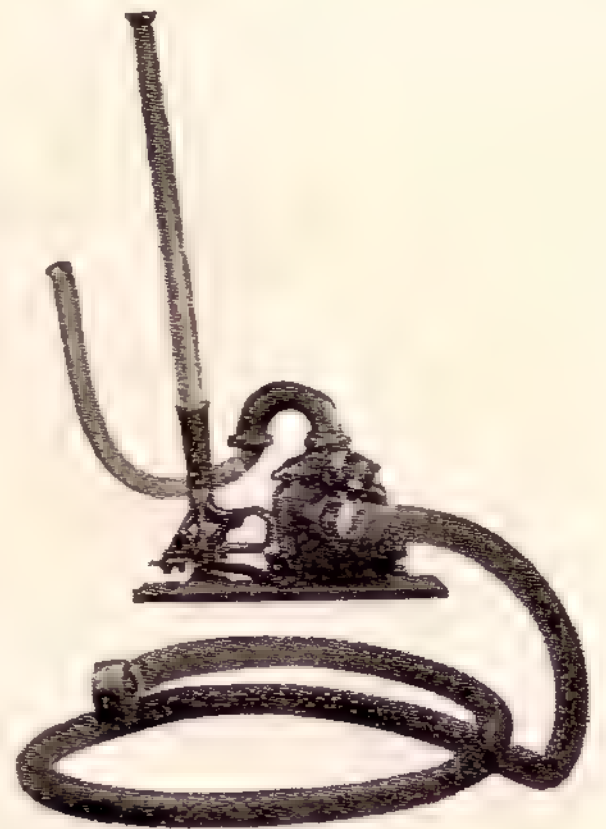
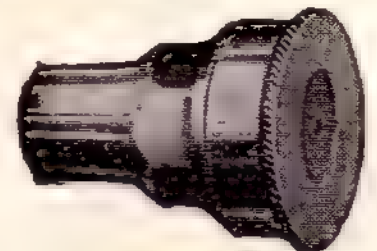


Fig. 617 Filling attachment

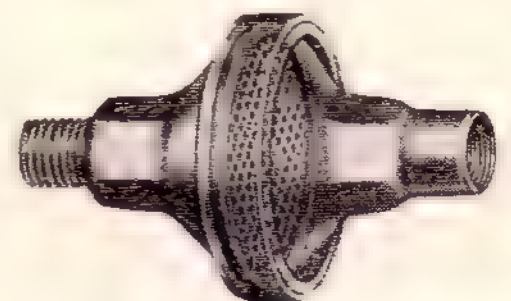
Nozzles and Nozzle Strainers

The IRON AGE No. 3496 nozzle is light in weight, durable, perfectly fitted and easily taken apart. Unlike many on the market, it is made of heavy stamped brass and will not rust. Two No. 0 discs are furnished with each nozzle and we are prepared to furnish No. 00 when ordered.



No. 3496

Nozzle Strainer No. 3498 strains all of the solution and keeps particles of dirt from stopping the flow through the nozzle. The picture shows the strainer complete with screen. No matter what crops are sprayed this strainer will prove effective and of great value. Nozzle Strainers are now furnished free with each new Traction Sprayer. If wanted as an attachment, order No. 3498.



No. 3498

Orchard Attachments

IRON AGE Traction Sprayers can be easily adapted to orchard spraying. This is a strong point, as most potato growers, farmers and truckers have a number of fruit trees that they wish to make produce good, clean fruit. These orchard attachments are not costly. Fig. 456 consists of 15 feet of one-half inch rubber hose and fittings complete with the Nozzle Strainer and Nozzle. Fig. 419 Spray Rod is 10 feet in length and is equipped with Stop Cock, 45° L, 2 Adjustable Grip Handles, and a Drip Guard. The Adjustable Grip is an exclusive IRON AGE idea and after the operator fastens the lower handle to suit his convenience the upper handle is allowed to slide on the pipe, which causes greater convenience in handling. The Grip slides on the pole instead of the hand.

A pump lever is furnished with each Sprayer and it only requires a quarter stroke of the lever to develop the necessary pressure. It requires two men to do the work of spraying—one to handle the Spray Rod and the other to drive the horses and operate the pump. The amount of pressure obtained depends much upon the man who operates the pump, but it is thoroughly practical to maintain 100 to 150 lbs. pressure. Of course, we do not offer this equipment as a substitute for a regular Orchard Sprayer.

Small trees may be sprayed without the use of an extra man by the driver holding rod in his hand and obtaining pressure from traction.



Fig. 456



Fig. 419

Orchard Power Sprayers

It is a well-known fact that practically no marketable fruit can be grown today without spraying, and it is also true that the quality even of that which is marketable is dependent on just how well the spraying is done. Every fruit-grower realizes that if he is to spray at all he had better do the job right and get all the fruit, and it takes a machine that is dependable, simple in operation and capable of delivering enormous pressure to do that.

The builders of the IRON AGE Sprayer are experienced fruit growers and the fruit which they grow "tops the market." There are many features on the IRON AGE that experience put there.

The simple, sensible design of the whole machine saves cost on construction, lowers upkeep work and expense, and covers ground very rapidly. The general design is long and narrow—easy to handle. It turns short and works well in narrow rows.

Cylindrical Tank

The tank is round or cylindrical in shape and is therefore fillable clear to the top. It carries a full 200 gallons. This shape prevents splash and permits the use of a large full-length paddle-wheel agitator that sweeps close to all sides. This dasher runs at a speed that keeps the solution uniformly mixed but not fast enough to produce foam—a very important feature on which the quality of the

job depends. The tank is built of $1\frac{1}{4}$ " cypress, and the cylindrical shape makes it an easy matter to keep it tight with the round iron adjustable hoops. There is a large manhole on top the box strainer which may be used for filling the tank.

Vertical Triplex Pump

This pump delivers 10 gallons per minute at a pressure up to 300 lbs. It has a maximum speed of 75 revolutions per minute, and is so balanced that it works with wonderful smoothness. It will handle any solution. Instead of the ordinary smooth-bore cylinder with leathers and rubbers that wear out quickly, it operates by means of three $2\frac{1}{2}$ -inch, hand-drawn pistons, passing through stuffing boxes. The stroke is 3 inches.

The frame of this pump is cast in one piece with the cylinders—no chance for anything about it to get out of line.



Orchard Power Sprayers (Continued)

Pressure Regulator and Pump Governor

insures a uniform pressure. When guns are shut off pressure is maintained in air-chamber while the pump supply is being returned to the tank under no pressure, saving great power when not spraying and in going from tree to tree. Also permits examination of pump without drawing off the solution while the pressure is still maintained.

Strainer and Sediment Chamber

There is small chance of any undissolved matter going through to the pump and spray guns because of the STRAINER located in the SEDIMENT CHAMBER at bottom of the tank. This strainer and the sediment chamber may be easily cleaned out when the tank is full by merely closing the stop-cock, removing bottom of sediment chamber and taking out the movable strainer.

IRON AGE Tank Filler

This tank filler is a patented feature and one that represents a very great saving of time when the orchard is some distance from headquarters. By means of this tank filler, water may be taken from a stream or other supply nearby. It is the only filler that takes all its supply from the source, thus insuring thorough cleansing of the pump with clean water every time the tank is filled. It is regularly furnished with 15 feet suction hose.

The Frame

of the IRON AGE Power Sprayer is made of channel steel, thoroughly braced and bolted.

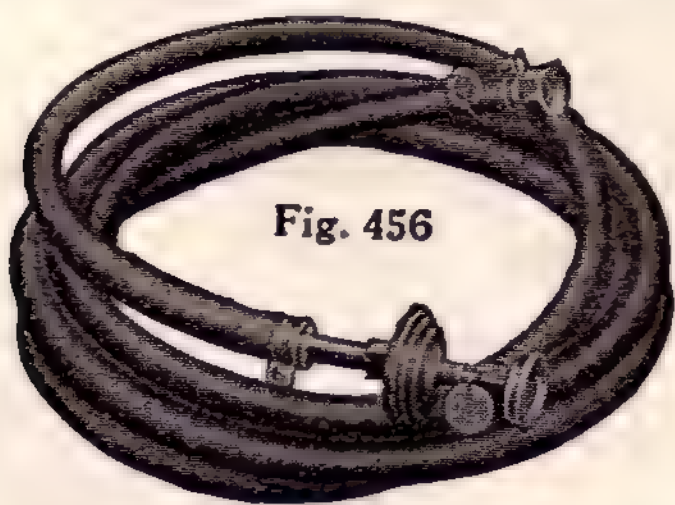


Fig. 456



Fig 624 Spray Gun

No possibility of warping or springing out of shape. The entire assembly is mounted on skids.

The Platform

over the entire machine is strong and well-braced. It is necessary for reaching the tops of high trees. The height from ground to top of platform is only 5 feet; it is therefore low down so it will pass under low-hanging limbs. Side curtains hanging from this platform serve to enclose the machinery.

Tool Box and Foot-Rest

A strong, good-size tool box and a foot-rest are secured to front end of the tank, and the front end of the platform provides a seat for the driver.

The Truck

is a low-down type, with steel wheels and with a very short turning radius of 13 feet. Width of tires, 4 inches. Diameter of front wheels, 28 inches; rear wheels, 40 inches. We can furnish wider tire wheels if wanted.

Hose and Spray Gun

are furnished extra. The hose shown in Fig. 456 comes in 15-foot leads and either one or two can be used, as desired, attached to the double hose coupling at the rear of skid frame.

The IRON AGE Spray Gun, Fig. 624, is short and easily handled. By simply turning the handle of the gun, the operator may change the spray from an extensive vapor-like fog to a full, long-distance driving spray. Turning further shuts the spray off entirely. This spray gun is used in our own orchards and has given splendid results and service.

IRON AGE Power Sprayers

No. 1500. 200-Gallon Tank, 5-H. P. "New Way" Engine, Triplex Pump, Skids and Truck.

No. 1501. 200-Gallon Tank, Triplex Pump, Skids and Truck, but without engine. For the customer who has an engine or who desires an engine of a kind that we cannot supply.

No. 1502. 200-Gallon Tank, Triplex Pump and Skids. Without truck and without engine.

IRON AGE Potato Diggers

The builders of IRON AGE Potato Diggers are specialists on potato machinery, and the digger is one of the chief implements of the line. The man who buys an IRON AGE Digger buys not only a machine with the know-how of 90 years' experience back of it, but he gets a machine that is known and used in every important potato-raising district in the country.

The IRON AGE Potato Digger line is divided, roughly, into two general classes—traction power and engine driven. Each of these has several adaptations or modifications to meet practically every need of the potato grower. The traction power digger may be obtained in either six or seven-foot elevators, with or without extension elevators or any combination of both. The engine-driven digger may also be obtained with either size elevator, with or without extension elevator, with or without automatic release clutch and equipped for either a New Way, Collis (formerly Piersen), or Cushman engine.

Advantages Possessed by All IRON AGE Diggers

IRON AGE Diggers are all built for the heaviest conditions of vines, grass and soil. The whole construction is extremely strong, the wheels large, the traction great, the elevators wide and the action very vigorous when desired. The IRON AGE, furthermore, is not only made to dig and separate in the heaviest conditions, but it is made to stand hard usage for years.

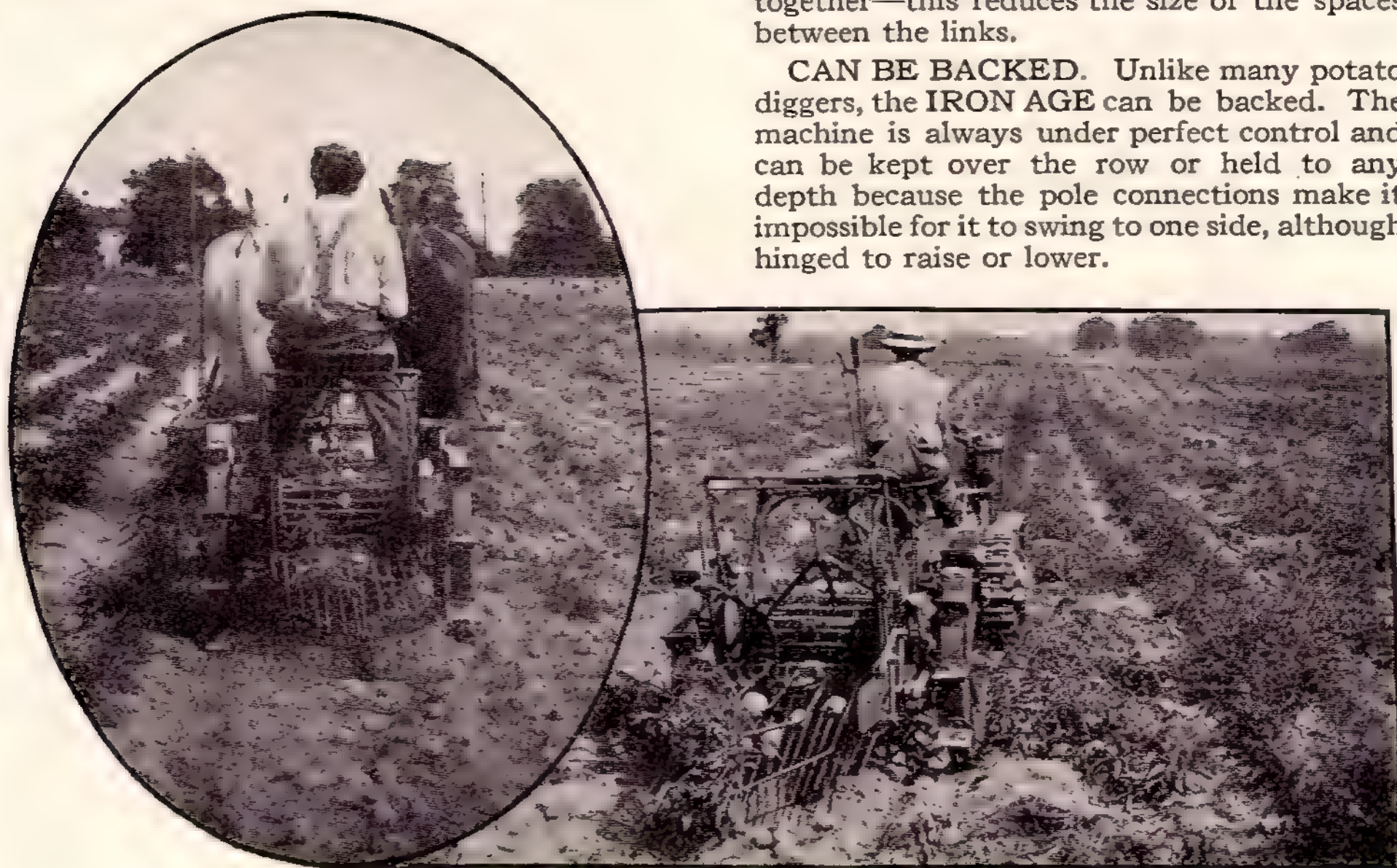
SEPARATION IS THOROUGH. The elevator apron is made of interlocking steel crossbars. Elliptical sprockets give them just the right motion. No unnecessary tension on apron, which is driven direct by gearing from each side. The SHAKER has uniform

motion—heavy conditions do not affect it and provision is made for faster shaking by extra sprockets furnished with each digger. Shaker tines can be shaped to drop potatoes either in the middle of the row or at one side as desired.

"Green" potatoes may be dug without skinning or bruising them by substituting the plain bearings for the elliptic bearings which agitate the elevator apron, and in some cases where the separation is not difficult the shaker may be removed entirely.

Small potatoes may be separated more satisfactorily by hooking all the "up" links of the apron together and the "down" links together—this reduces the size of the spaces between the links.

CAN BE BACKED. Unlike many potato diggers, the IRON AGE can be backed. The machine is always under perfect control and can be kept over the row or held to any depth because the pole connections make it impossible for it to swing to one side, although hinged to raise or lower.



Potato Diggers (Continued)

MALLEABLE CASTINGS AND STEEL almost entirely. So strong, compact and carefully fitted that it keeps tightly bolted and will not rack to pieces by heavy going. Heavy steel angle side bars.

THE PLOW. Made of $\frac{5}{16}$ -inch steel and fitted with stone fingers. When stones strike top of plow the fingers give, so there is no clogging.

CLOSE ADJUSTMENTS made so that plow takes up no more soil than necessary to get potatoes without cutting them.

THE FRONT ROLLERS next to the plow can be raised where conditions are wet or unusually stony, or lowered when light and dry and potatoes inclined to push out.

A CLEAR OPEN ELEVATOR. Nothing in the way of potatoes and soil traveling from plow up the elevator. No potatoes pushed aside on the plow, as the elevator sides extend out far enough on the plow to prevent this.

THE LIFTING AND SHAKER LEVERS are very powerful, and are conveniently located on right-hand side—may be used either from the seat or by man walking at side. They are so constructed they may be shifted to left-hand side if desired.

ROLLER BEARINGS on each side of the elevator shaker shaft where the hardest work is done reduce friction and wear to a minimum.

STEEL KICKERS with spring trip, help to keep the vines and grass moving. No matter how thick and tangled the bunch, it is soon worked loose by the kickers working as on a tedder. They are driven by a chain and tightened in a simple way.

A VINE SEPARATOR is furnished as a part of each shaker. Heavy growths of vines make it desirable to separate them from the crop.

SEPARATE REMOVABLE BEARINGS, Fig. 471, carry the elevator apron. Easily and cheaply replaced. The parts of the middle bearings are shown in Fig. 472. One of these parts is an agitator sprocket which can be changed for a plain round bearing with lugs, when less agitation is desired. The sleeves shown at the left can be changed to opposite sides to get double the wear. Note that the

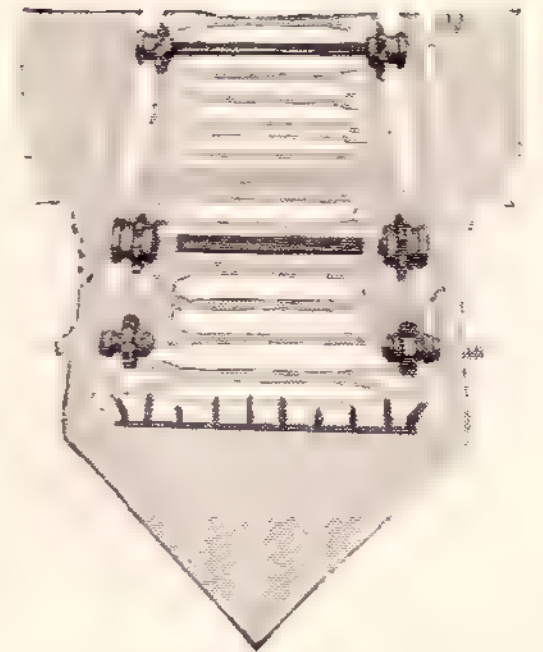


Fig. 471

A plain system of Bearings and Sprockets for the chain. Protected against dirt and easily replaced when worn. Note also Stonefinger equipment for Plow.



Fig. 472

Separate parts for Middle Bearings.

bearings are flanged and the washers set in to keep out sand and dust. The repair expense on this digger is only a small fraction of that on any other machine of the kind on the market.

Each digger is equipped with a fender in the elevator which divides the soil and forms a trough in the row into which the potatoes are centered. This makes it possible to pick them up more quickly and they are less apt to become injured by the wheel of the digger or feet of the horses when digging the adjoining row.

THE EXTENSION ELEVATOR, Fig. 623. We furnish our potato diggers with the extension elevator in place of the shaker (see rear end of digger, page 44) when desired. Or any user may have both, as they are interchangeable. We recommend the use of the extension elevator when digging before potatoes are thoroughly ripe and where it is not necessary to use the shaker to obtain proper separation. The necessity for the shaker occurs principally on account of weeds and grass, although it may be because of heavy soil conditions alone.

The extension elevator is strongly constructed and will give splendid service. The chain on the extension is the same size as used on the elevator apron. All IRON AGE diggers with this equipment in place of the shaker are designated by the addition of the letter X—thus No. 220X.

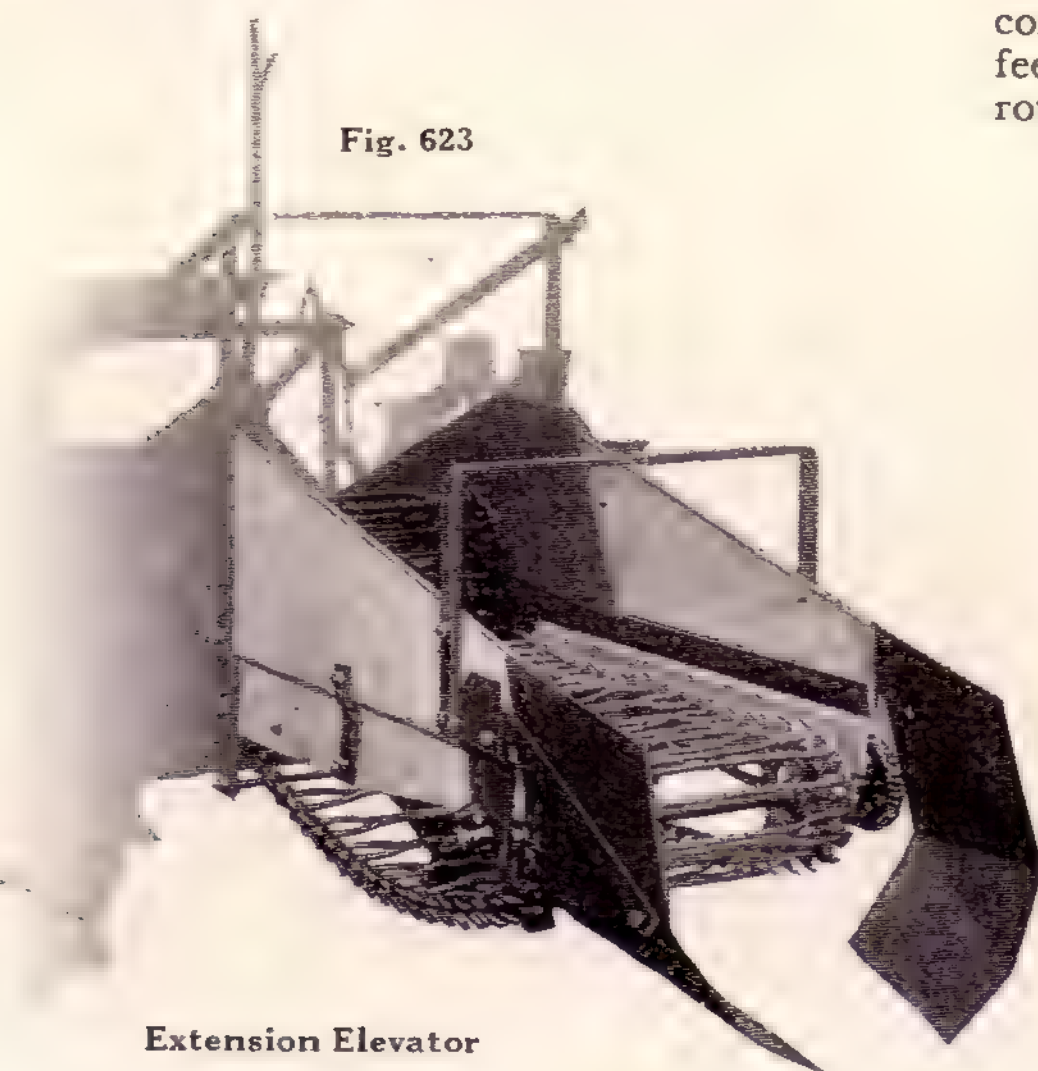


Fig. 623

Extension Elevator

No. 220 Traction Potato Digger

The No. 220 is the very latest type of IRON AGE Traction Digger. It is a machine that interests the experienced potato grower at the first glance, and as he goes over its many labor-saving advantages and its trouble-proof quality he can readily see that here is a machine designed for the heaviest, most difficult conditions. The great traction power of the big 36-inch wheels, the long, wide elevator, enable it to travel right on through heavy soil, high vines and grass with comparative ease. It is a real pleasure to see it operate even under hard and trying conditions.

Special Features

Throws in and out of gear from the seat. One lever shifts the pawls in both wheels at once. The operator remains in the seat at ends of rows, throws out the gear and keeps the potatoes on the shaker instead of scattering them as he turns the digger, which would be the case if machine was not thrown out of gear. Furthermore, the machine may be backed whenever desired.

The Fore-Truck is so coupled up that in turning it will not cramp or twist. It permits of a flexible tongue, and yet heavy draft has no effect on the neck weight. The wheels quickly pivot in the direction in which the tongue is turned. The fore-truck holds the plow in the same position as originally set, doing away with any variation in the raising or lowering of the tongue.

Large elevators, wide enough to

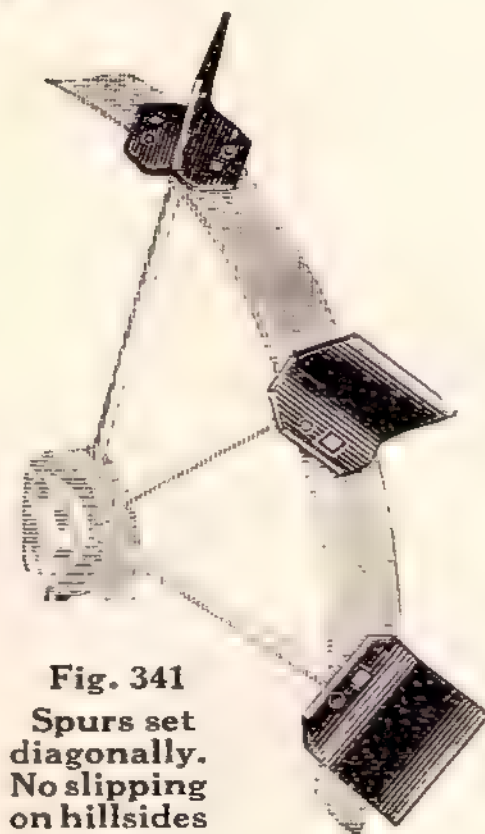


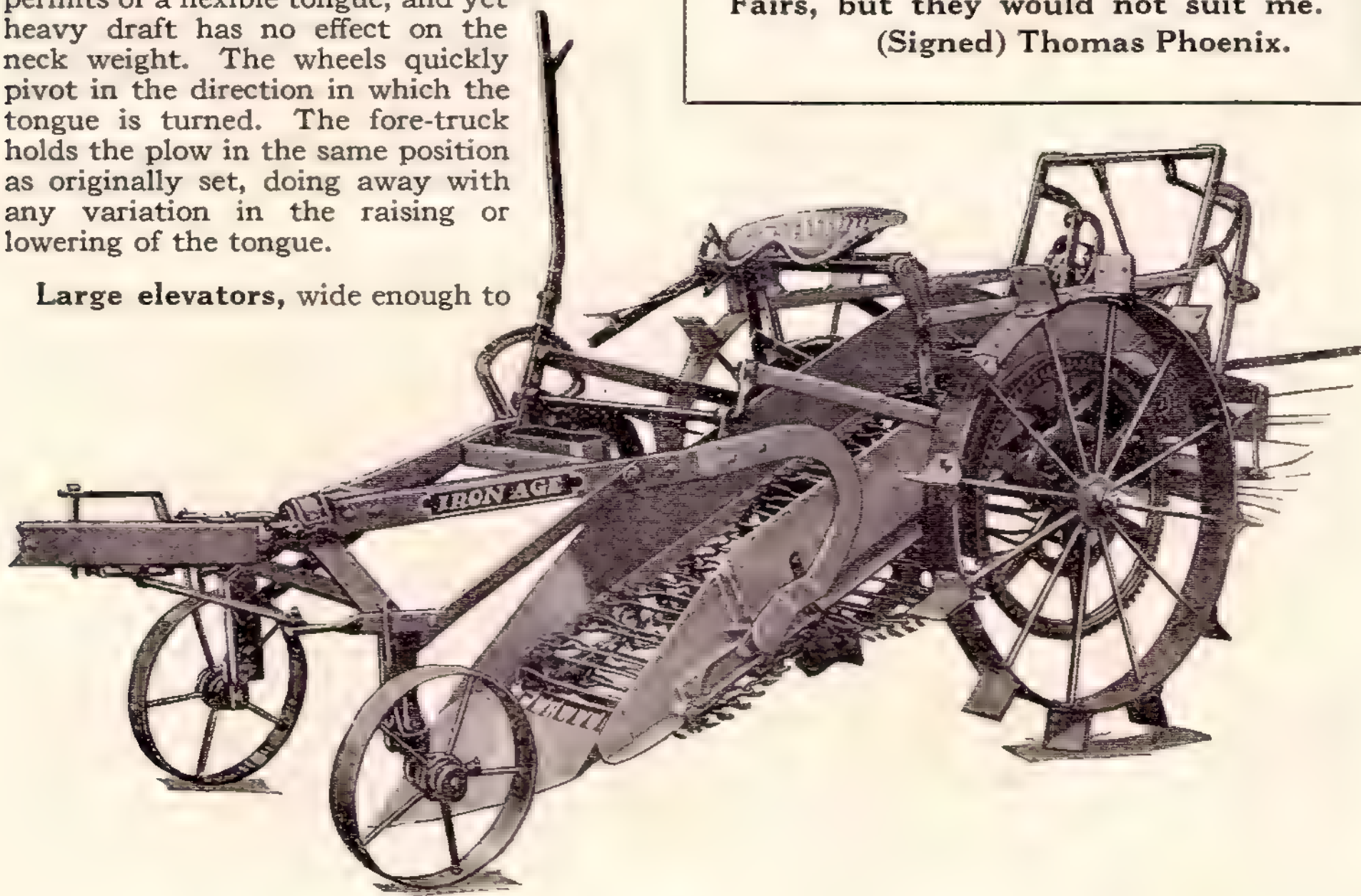
Fig. 341
Spurs set
diagonally.
No slipping
on hillsides

Route No. 1 Saginaw, Mich.,
Oct. 24, 1925.

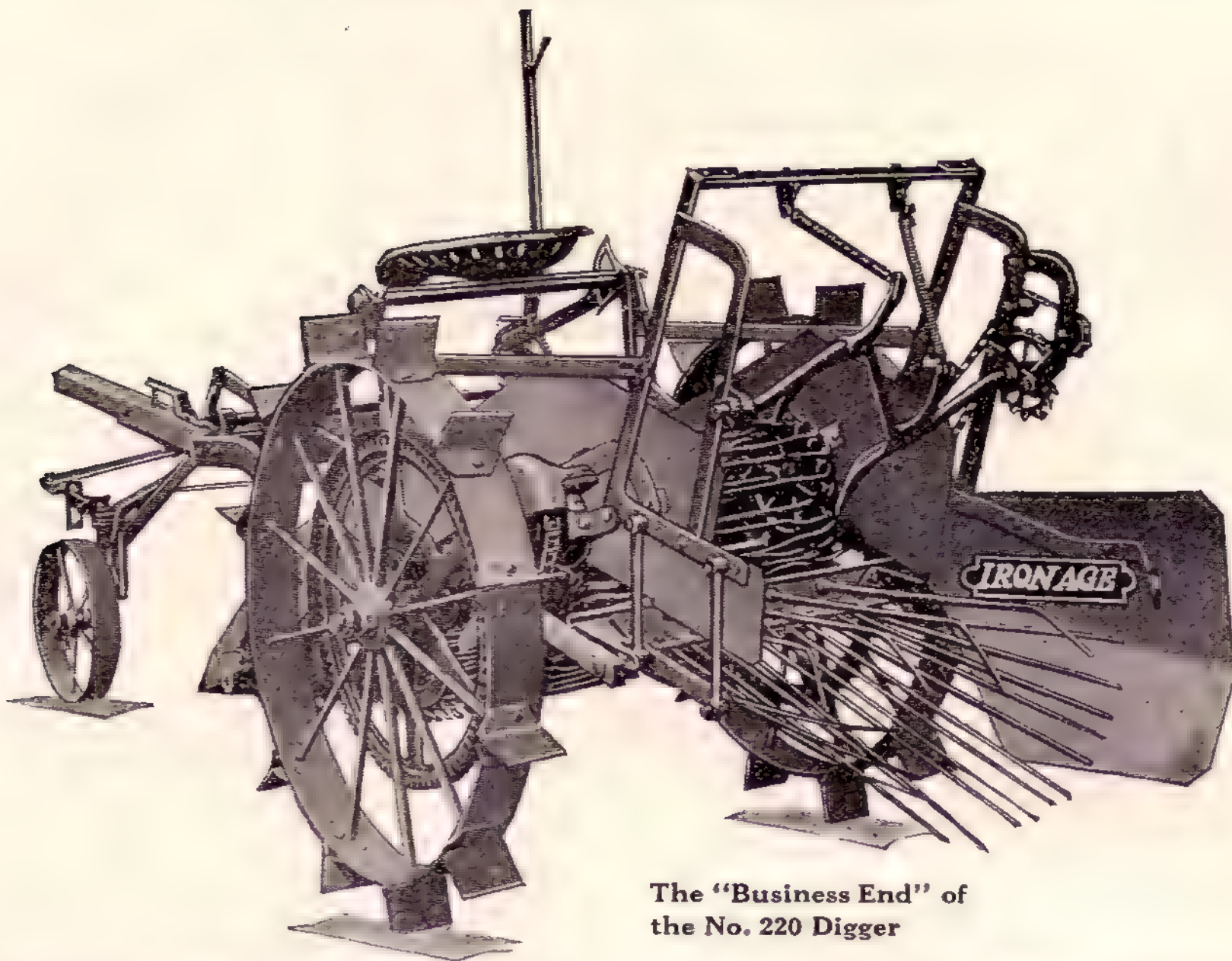
Dear Sir:

I have had an IRON AGE Digger for nine years and the repairs I am now ordering are all the repairs I have had, and we have dug from twenty-five to thirty acres every year. This is the best digger I know of. I also have an IRON AGE Planter which is just as good, and I think the Planter is the best made in the United States. I have seen all makes of Planters at the Fairs, but they would not suit me.

(Signed) Thomas Phoenix.



Potato Diggers (Continued)



The "Business End" of
the No. 220 Digger

take care of all possible needs without clogging. The elevators on Nos. 220 and 220-X are 22 inches wide and 60 inches long. On the Nos. 220-7 and 220-X-7 the elevators are 22 inches wide and 7 feet long. In special heavy conditions some prefer elevators 7 feet in length in order to obtain greater amount of separation before the potatoes reach the shaker.

High Wheels give more traction power and ride hills and hollows easily. Diameter, 36 inches, with a 4-inch tire, 12 spokes and large spurs (4½ inches wide), all help to give

greater traction. Power transmitted by heavy main gears on each wheel.

The Hub Boxes, the only part that can wear, are of the cast removable type, and are easily and cheaply replaced.

The Spurs on the wheels of the traction digger can be bolted as shown in Fig. 341 for holding on side hills. On level ground, set straight, they provide the best of traction and permit no slipping.

Complete Four-Horse Equipment is shipped with each No. 220, 220-X, 220-7 and 220-X-7.

IRON AGE Traction Potato Diggers

	Weight lbs.
No. 220—Digger, 22-inch Elevator and Vine Separator, with four-horse Equipment. (Substituting No. 155)	1060
No. 220-X—Same as No. 220, but with Extension Elevator. (Substituting No. 155-X).....	1075
No. 220-7—Same as No. 220, but with 7 ft. Elevator. (Substituting No. 155-7).....	1118
No. 220-X-7—Same as No. 220-X, but with 7 ft. Elevator. (Substituting No. 155-X-7).....	1133

Digger Tractor Hitch



Fig. 612

For those who desire to use their IRON AGE Potato Diggers with a tractor instead of horses, the Tractor Hitch, Fig. 612, shown here, is entirely satisfactory. It is so designed as to apply to practically all the different styles of tractors. It is made entirely of steel, has a wide range of adjustment, and is very strongly constructed. We are prepared to furnish this in substitution for the tongue, double-tree and neckyoke regularly furnished when the digger is intended for use with horses.

Engine Potato Digger

The IRON AGE Engine Digger is specially designed and built from the ground up as an Engine Digger. It is not a "makeshift" from our No. 220 Traction Power Digger.

It has many advantages over all other types of diggers. It saves horse-flesh because only one team is necessary. This frees an extra team for other work about the farm. It saves labor-cost and time because it delivers the potatoes in long rows clear of dirt and vines, all ready for basket or barrel.

With the IRON AGE Engine Digger the driver never has to climb down from the seat to clear the elevator if it gets choked. If the elevator gets too full, he merely slows up the team a moment to give the engine a chance to catch up and get everything clear.

PATENTED AUTOMATIC THROWOUT CLUTCH

This remarkable IRON AGE invention is found only on this digger. It avoids all danger of breakage due to stones or other obstacles catching in the chain or elevator.

We are the originators and would neither make an engine digger nor use one ourselves until this automatic clutch was perfected. Like all other parts on the machine, it is long-lived and requires but little attention.

The No. 228 Engine Digger may be equipped with either the New Way, the Collis (formerly Piersen), or the Cushman five-horse power engine. The engine can be easily and quickly removed for use

on the No. 1500 IRON AGE Orchard Power Sprayer shown on page 39 or the No. 118 IRON AGE Crop and Orchard Sprayer shown on page 36.

The engine drives the elevator machinery through a special hardened steel chain of the very highest quality.

LARGE ELEVATORS, big enough to take care of all possible needs without clogging, are a feature of all IRON AGE Diggers. The Elevators on Nos. 228, 228-A are 22 inches wide and 60 inches long; on the 228-A-7 and the 228-AX-7 they are 22 inches wide and 72 inches long.

THE WHEELS on the engine digger are 32 inches high without spurs, as these are not needed for traction. The tires are heavy steel, 3 inches wide, and each wheel has 12 heavy steel spokes.

Weight

No. 228—Digger, 22-inch Elevator, Engine-Driven, with Automatic Release Clutch. (Specify whether New Way or Piersen—now Collis) Engine will be used. Doubletree and Neckyoke. (Substituting No. 158-A)..... 951

No. 228-A—Same as 228, but without Automatic Release Clutch. (Substituting No. 158)..... 957

No. 228-X—Same as 228, but with Extension Elevator. (Substituting 158-AX)..... 966

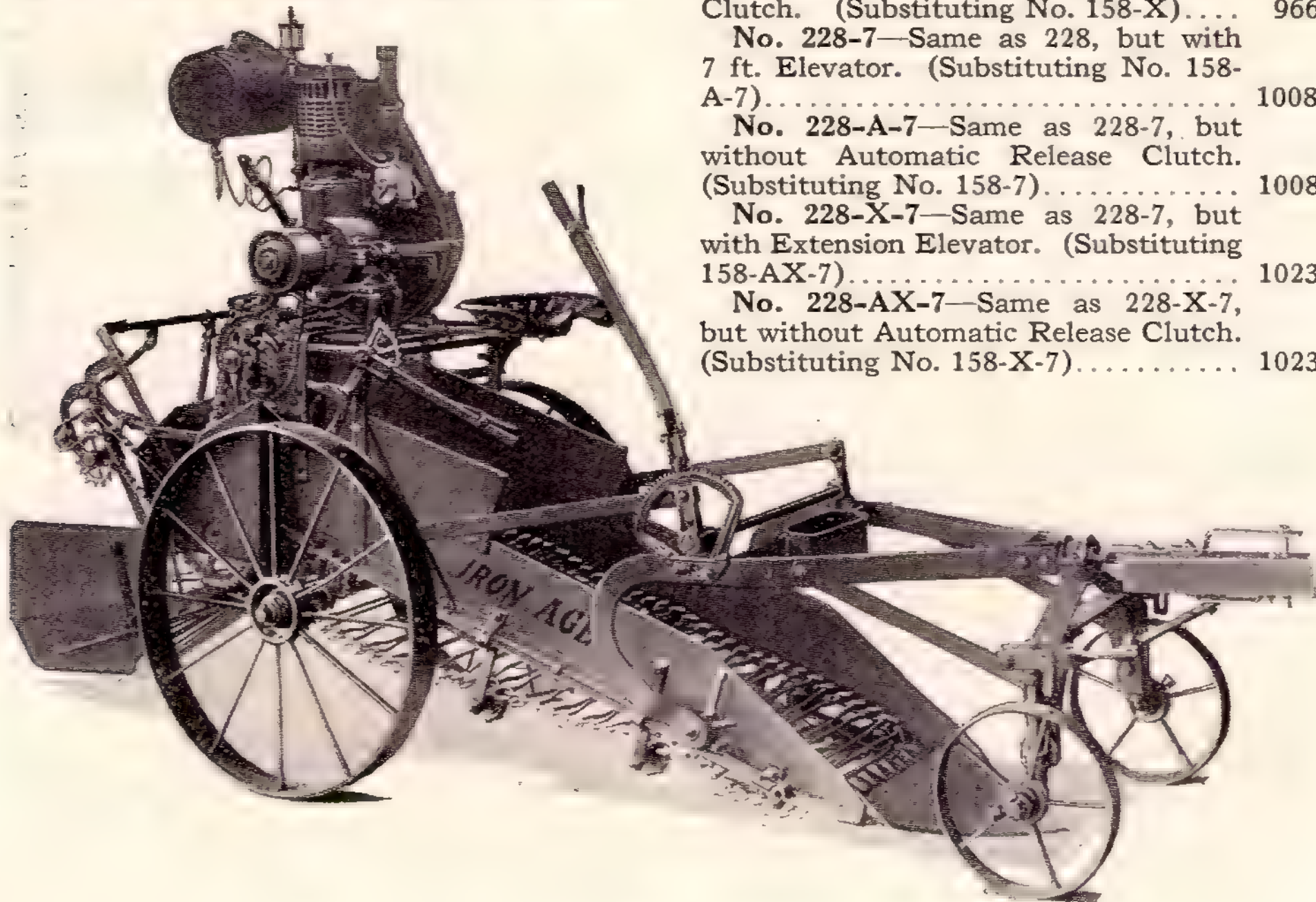
No. 228-AX—Same as 228, but with Extension Elevator and without Release Clutch. (Substituting No. 158-X).... 966

No. 228-7—Same as 228, but with 7 ft. Elevator. (Substituting No. 158-A-7)..... 1008

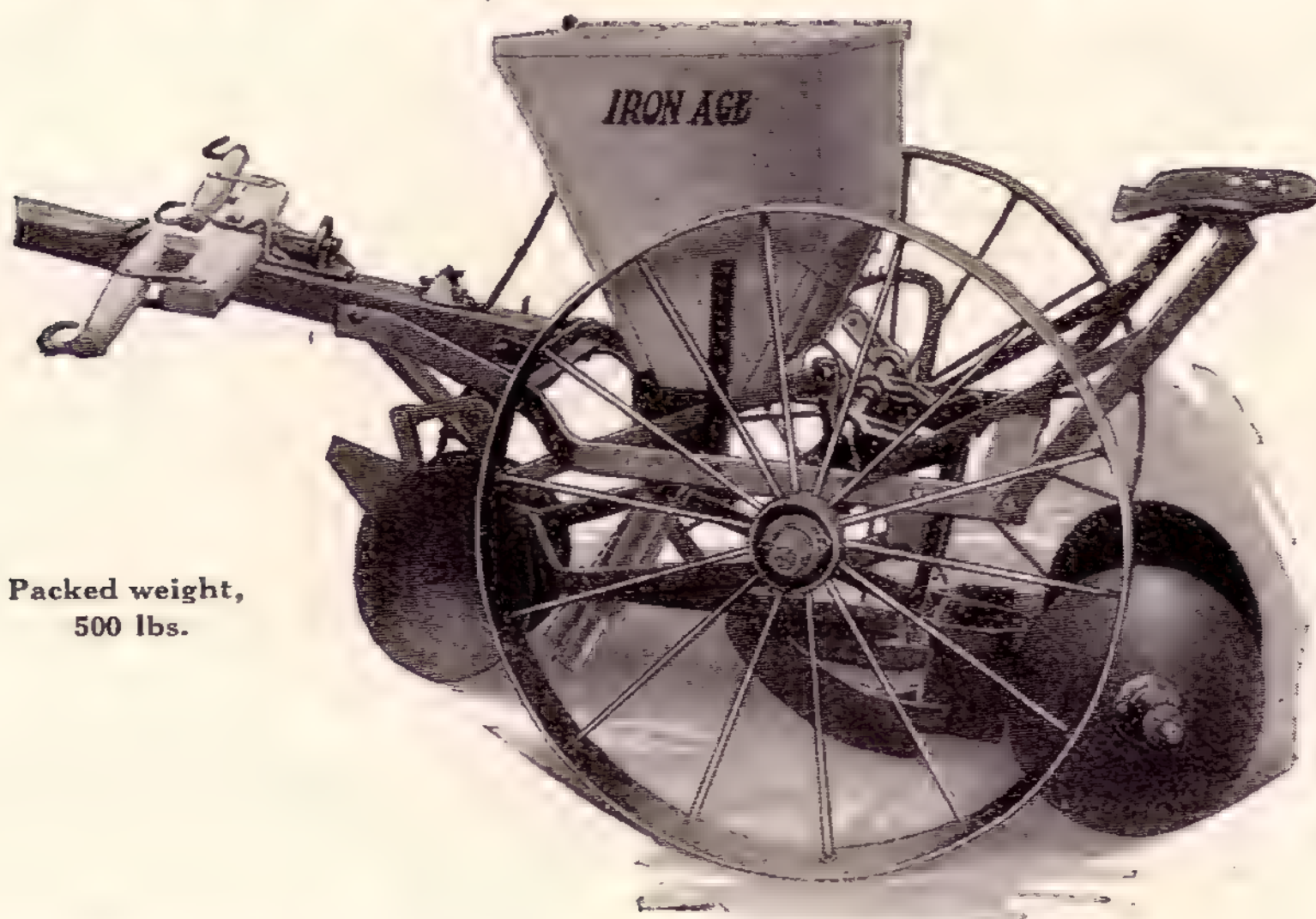
No. 228-A-7—Same as 228-7, but without Automatic Release Clutch. (Substituting No. 158-7)..... 1008

No. 228-X-7—Same as 228-7, but with Extension Elevator. (Substituting 158-AX-7)..... 1023

No. 228-AX-7—Same as 228-X-7, but without Automatic Release Clutch. (Substituting No. 158-X-7)..... 1023



No. 450 Row Maker and Fertilizer Distributor



Packed weight,
500 lbs.

A machine with a very wide field of usefulness. A money-maker for every farmer who raises row crops or uses fertilizers, and for every trucker or gardener who works with two horses.

As a Row Maker this machine will open up a furrow in prepared soil, distribute the fertilizer and cover it. It will also make up the list or ridge and also mark the next row. See illustration showing the sequence of its work on page 48. Through the operation of this machine the furrows are kept at an even depth and the fertilizer is spread uniformly because the operating parts are located directly between the wheels and therefore follow closely the contour of the surface.

With the double-disc opening plow regularly furnished with this machine and shown in the illustration above, the fertilizer is sown in the two furrows made by the discs. Because of the fact that the fertilizer is thus placed in two streams, one on each side of the furrow, plants and seeds may be placed in the ridge without any danger of injury from the fertilizer. When the fertilizer is distributed on each side of the ridge instead of in the middle, all the plant food is made available each time the tooth of a cultivator runs alongside the plant. When the fertilizer is distributed in the centre of the row there is no opportunity to stir it and make promptly available all the plant food.

The operation of the No. 450 is extremely simple and great speed is attained, saving many days and much labor in the preparation of the soil for a crop. The driver rides and controls all operations from the seat by means of a single lever. When plows and discs are lifted, the flow of fertilizer starts again.

The plow is adjustable for depth and with the 14-inch discs any kind of covering may be done—flat, medium or high ridged. The driver raises the marker by pulling it up and over with a chain.

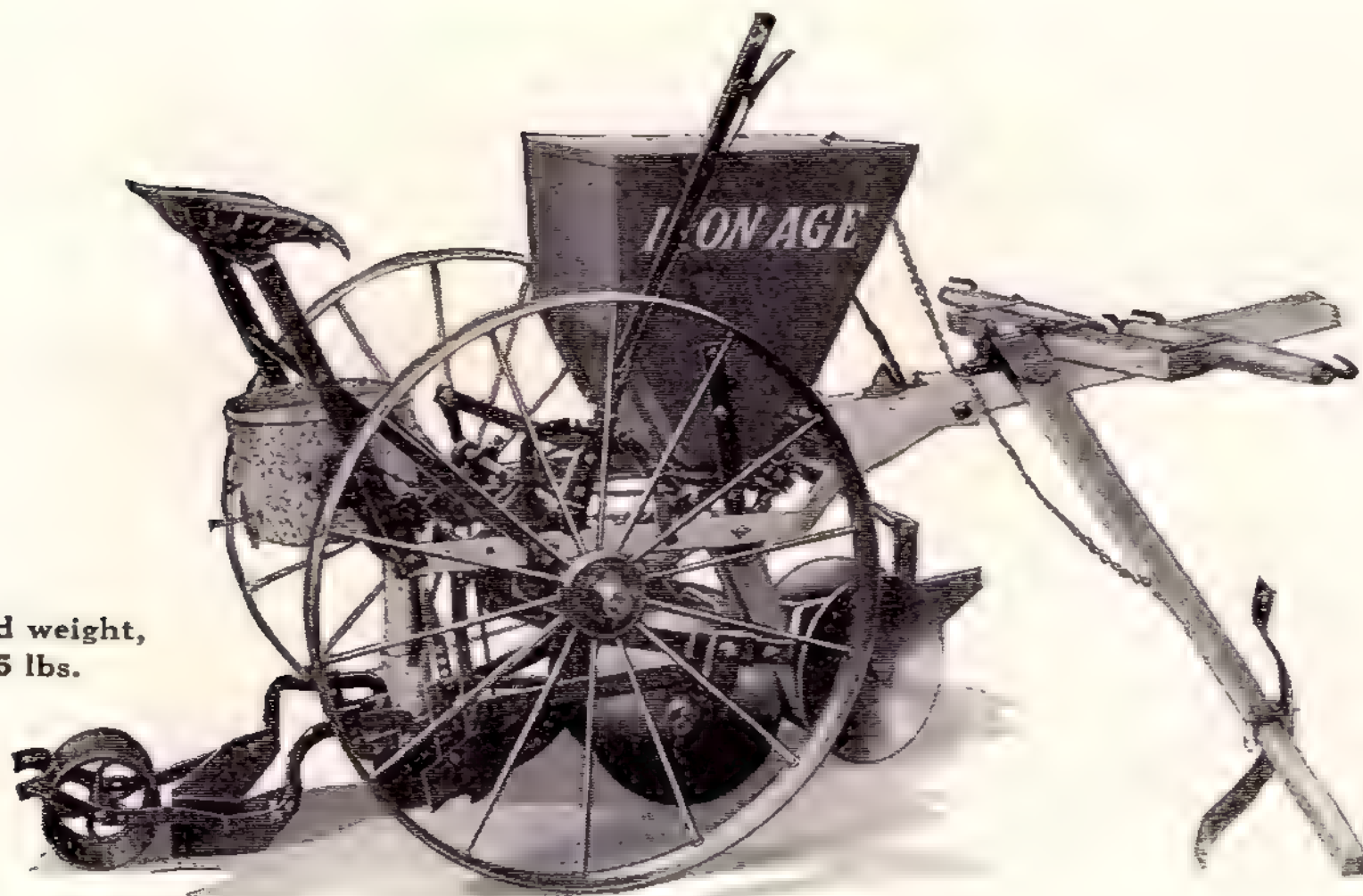
Either of the opening plows shown in Figs. 576 or 142, page 30, may be applied in place of the Double-Disc Opening Plow.

The fertilizer distributor used on this No. 450 is the same as that which is so successfully used on the IRON AGE Potato Planter. The entire bottom of the hopper is in fact a flat belt which acts as a force-feed, carrying the fertilizer in a broad, thin sheet under an adjustable gate. The simple adjustment of this gate regulates the exact quantity to be sown and pulverizes the lumps. Dropping from the belt, the fertilizer passes through movable or adjustable rubber tubes directly behind the discs in front of a shoe, which covers it with soil. A single thumb-screw keeps the supply uniform. Damp fertilizer cannot bridge over nor lumps pass through.

The No. 450 Fertilizer Distributor and Row Maker is the same machine basically as the No. 451 Row Maker and Duplex Planter, the No. 452 Row Maker and Small Seed Planter and the No. 453 Cotton Planter, shown on the following pages. Merely by the addition of the necessary parts the No. 450 becomes any or all of these machines.

No. 450 is a strong and sturdy machine made practically entirely of steel. Its frame is the same as that of the IRON AGE Potato Planter. The main frame is of 2-inch angle steel, the wheels are 38 inches in diameter, with a 4-inch tire and 14 steel spokes.

No. 451 Row Maker, Fertilizer Distributor and Duplex Planter



Packed weight,
595 lbs.

The IRON AGE Duplex Planter is a combination of the No. 450 Row Maker shown on preceding page and the Duplex (Coles Pat.) Planting Attachment.

With the Duplex Attachment, the machine not only makes up and fertilizes the row, but it plants either one crop continuously or two crops in every other row or alternately in the same row. Corn and beans, especially field beans, alternating in the row, as commonly planted for "hogging down," may both be planted at the same time, all operations combined into one. Peanuts alternating with velvet beans is another favorite combination that may be planted by this great labor-saving method.



Planting two crops in the same row

The Duplex Planter is a machine that practically every gardener needs. No progressive gardener can afford to be without it, not only because of the Duplex planting feature but because also of its great usefulness as a row maker and fertilizer distributor. With the seeding attachment removed, this machine is widely used for making up and fertilizing rows for peppers, tomatoes, cantaloupe, cabbages, etc., and for making up seed-beds for small seed.

This machine makes a double furrow for the fertilizer, leaving a small ridge down the middle of the furrow, sows the fertilizer, and then covers it.

At the same time it makes the seed trench, plants the seed, covers it, packs the soil and marks the next row. It makes the ideal seed-bed, ridged up as desired.

The depth of planting, quantity of seed, height of list, etc., are easily regulated. Not only will the job be done far easier and much quicker, but it will be done better than ever before. The IRON AGE Duplex (Coles Pat.) Planter will sow seed in hills from $2\frac{1}{2}$ to 72 inches apart, the right amount to every hill.

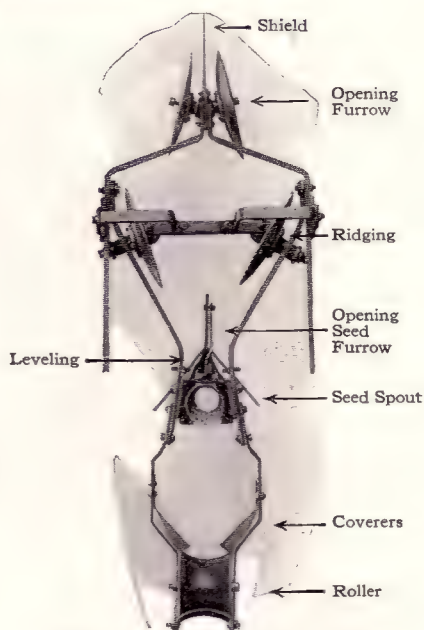
The seed hopper is double, and each side is equipped with a slanting plate, gravity selection, plain-view seed dropper. There is no brush or metal cut-off, so that the most delicate seeds cannot be injured. The control for both sides of the hopper is so arranged that while the planter is either standing or moving you can shift a lever so (1) both seed plates will operate at the same time, or (2) the right plate alone, or (3) the left plate alone.

No. 451 Row Maker, Fertilizer Distributor and Duplex Planter (Continued)

This feature makes the IRON AGE the most useful planter one could possibly obtain. With it, corn, for instance, may be put in one side and velvet beans in the other, and the planting made in any of the following manners merely by shifting the lever: (1) corn and velvet beans in alternate hills in the same row at the same time; (2) corn in one row and velvet beans in the next row; (3) corn in any part of the row and velvet beans in the balance of the row, or (4) corn in any parts of the row and both velvet beans and corn in other parts of the same row.

In like manner, by using plates to suit the seed, any two kinds of seed may be dropped, changing at will and instantly from the two kinds at the same time to either kind alone, and back to the two kinds, or back and forth from one kind to the other. Also one side of the hopper may be fitted with a plate with double as many holes as the plate in the other side and thus drop two hills of one kind to one hill of the other. The plates may be set to drop both kinds of seed at the same time, or halfway between each other. Furthermore, if desired to plant only one kind of seed, one hopper only may be used, or the same kind of plate and the same kind of seed in both hoppers and the plates set so as to drop two seeds together, or one seed in a place, equally spaced in the row. Or, if one end of a row is poor land and the other end rich land, one plate may be run on the poor land and both plates, planting twice as thick, on the rich land.

This machine is just as useful for planting all kinds of seed, one at a time, as any single hopper planter and has the great advantage of planting two kinds of seed at the same time, if desired. By having the machine, the farmer will frequently plant crops like soy beans in with their regular plantings, growing not only



Planting Sequence of the No. 450

two crops but building up their soil at the same time.

Although it is true that the method of planting used in the IRON AGE Duplex Planter will drop corn, etc., of mixed sizes better than any other planter on the market, it is nevertheless true that very great difference in the sizes and shapes of the different varieties exists. This may occasionally require, for extremely accurate planting, that a few seed be sent in to us so that we may select four plates that will suit. When sending seed,



Beans and Corn in the same row, planted at the same time

No. 451 Row Maker, Fertilizer Distributor and Duplex Planter (Continued)

state numbers to the hill and distance of planting wanted. If more than four plates are wanted, they may be obtained at any time. When ordering plates for peanuts be sure to specify how and what kind of peanuts are to be planted. We have a variety of seed plates to suit all shapes and sizes of seed, such as corn, sorghum, peanuts, beans, peas, cantaloupes, and almost all other farm seed. We furnish regularly with each machine, unless otherwise ordered, the following plates: 4-pocket corn, 8-pocket corn, 4-pocket velvet bean, 8-pocket pea.

Each Planter or Duplex Attachment includes four sprocket wheels, carrying 5, 6, 7,

or 8 points or cogs each. These sprocket wheels are used to regulate the speed of the plates, increasing or decreasing the distance apart at which the seed is planted. For instance, by using a 5-point sprocket wheel and a 4-point pocket plate in the hopper you can drop corn 23 inches apart in the row, etc.

The seed is dropped through a set of galvanized seed tubes to the rear of the seed plow. This seed plow does not show in the illustration, but is located behind the V-shaped leveler. The one lifting lever raises and lowers both the front and rear gangs and at the same time shuts off flow of seed and fertilizer.

No. 452 Row Maker, Fertilizer Distributor and Small Seed Planter

The No. 452 is a combination of the No. 450 Row Maker and Fertilizer Distributor with the IRON AGE Drill Seeder. It is the only two-horse fertilizer distributor and row maker ever designed to also sow at the same time the very small seeds with equal accuracy to the small seed planters. This combination of two of the most important implements used by the market gardener speeds up his planting and saves at least one full trip over the ground. It goes into a plowed and harrowed field, and when it leaves, the job is finished, with nothing further to be done until cultivation begins. The No. 452 is essentially an implement for the gardener or farmer who works with a team.

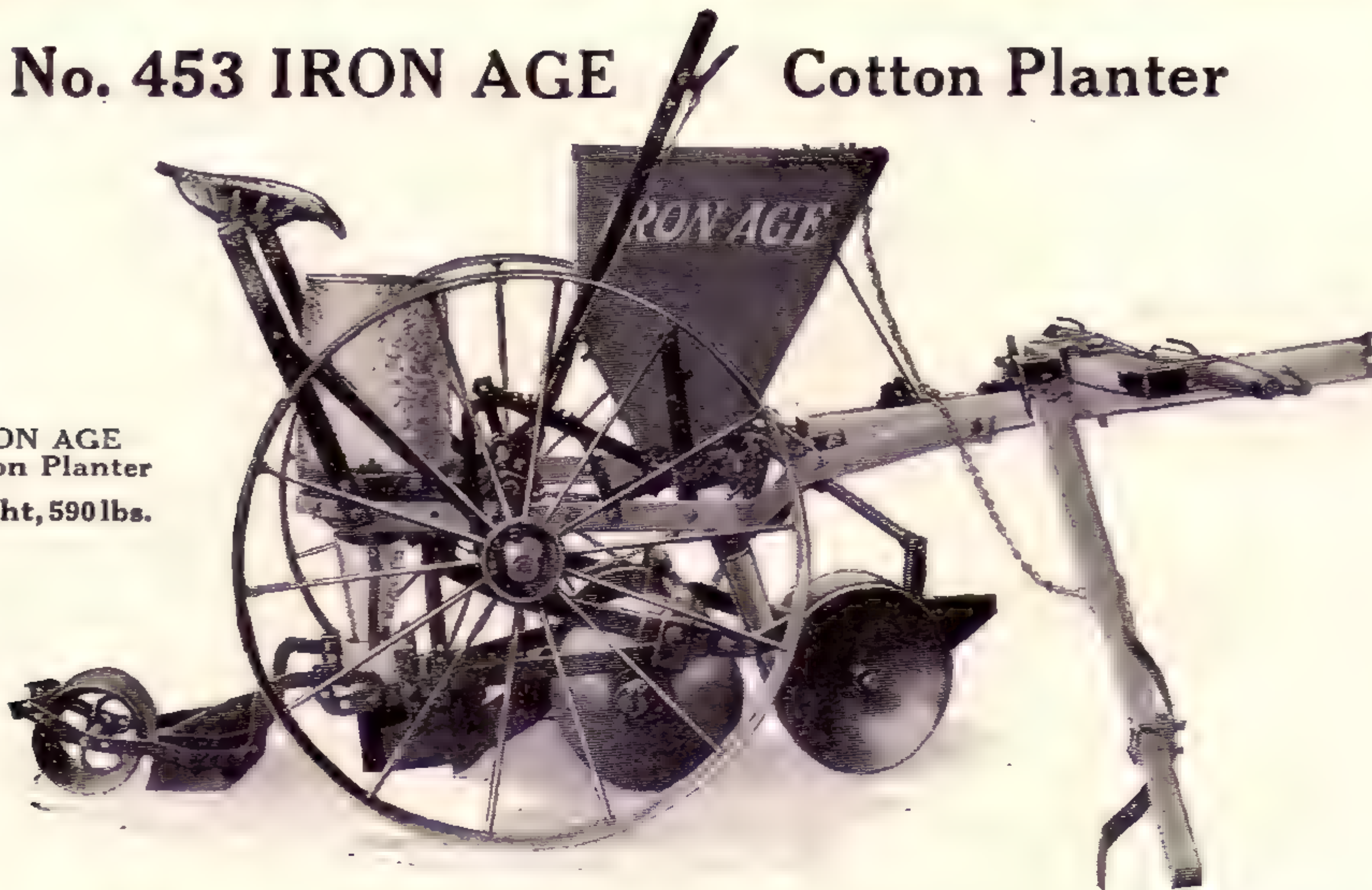
The following operations are combined into one: The fertilizer furrow is opened, the fertilizer spread, mixed and covered with the soil, and the list made up and leveled to desired height, then a seed furrow is opened up in the fresh soil, the seed planted, covered, the soil properly packed and the next row marked out. The operator rides, controlling the row-making and fertilizing with one lever, and the seeding with a convenient chain. The seeder plants in drill and handles with exactness any of the seeds listed on page 3.

A full description of the Row Maker is given on page 46 and the seeder details will be found on pages 3 and 4.



No. 453 IRON AGE Cotton Planter

IRON AGE
Cotton Planter
Weight, 590 lbs.



The IRON AGE Cotton Planter with one man can do the work of four and one team the work of three teams because it **combines the operations.**

This machine opens the furrow, sows the fertilizer, places it where it cannot come in contact with the seed, makes up the list with the covering discs, levels list to any desired height of seed-bed, opens a seed-furrow, sows the seed, covers it, rolls it, and marks next row.

Notice especially that the fertilizer does not come in contact with the seed, and the list is made up **before** the seed enters the ground.

Combining all operations into one also prevents drying out of the soil, as generally occurs when the ground is worked over several times. This machine plants the seed immediately into a fresh, moist seed-bed, assuring a quick, healthy start for the plant.

A positive sowing device in the bottom of a large hopper takes care of the seed and the same fertilizer distributor is used as on the

IRON AGE Potato Planters, Duplex Planters and small Seed Planters.

All necessary adjustments are provided for depth of the furrow, height of list, and depth of planting. One lever shuts off the flow of seed and fertilizer at the same time. A rear roller is provided for packing the soil after covering the seed.

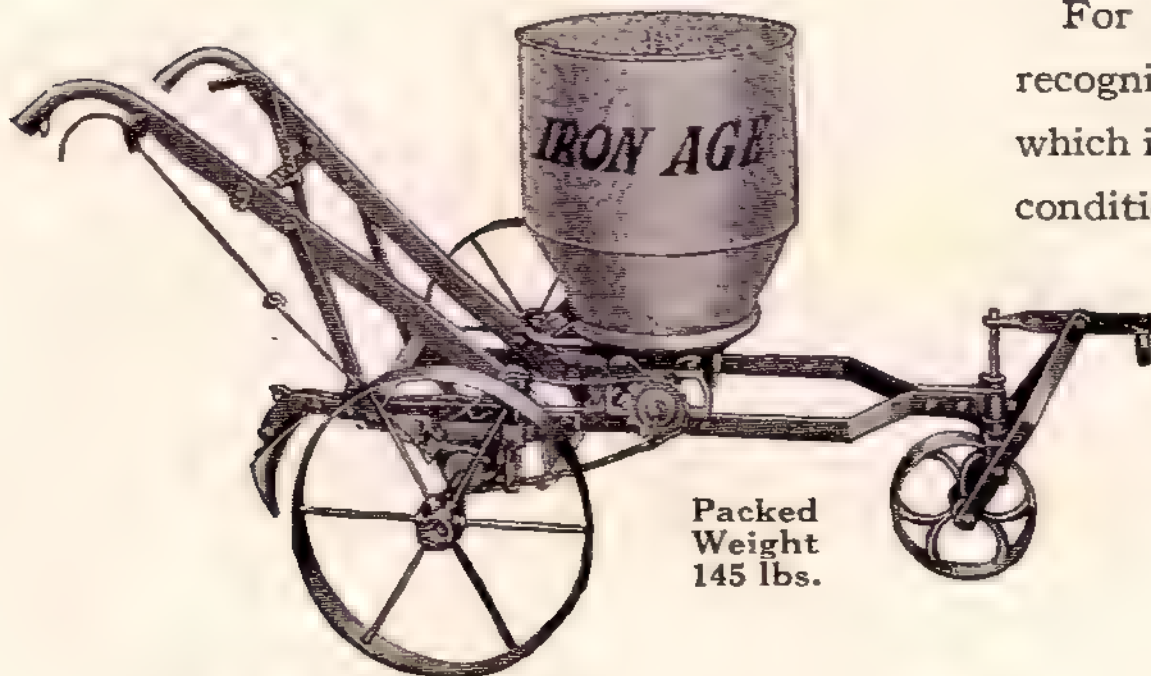
The machine is steel construction throughout, the description of the No. 450 Row Maker on page 46 applying in the same way to this machine.

This machine may be easily converted into a row maker like No. 450, page 46, or planter like No. 451, shown and described with the duplex seeder on pages 47, 48 and 49, by simply the addition of the Duplex Seed Attachment.

Either one of the opening plows shown in Figs. 576 or 142, page 30, may be applied to this planter in place of the Double-Disc Opening Plow shown above.



One-Row, One-Horse Fertilizer Distributors



No. 170—IRON AGE One-Row, One-Horse Fertilizer Distributor

For many years this machine has been recognized for the ease and certainty with which it works under even highly unfavorable conditions. It sows all kinds of commercial fertilizer, dry or even damp. It may be depended upon to sow the fertilizer in a regular, uniform stream six or eight inches across the open furrow.

The machine may be thrown out of gear while in motion and locked out with a small clip on the handle.

A swivel wheel in front is used for raising or lowering machine to suit depth of furrow and to assist in short, easy turning. The main wheels, as well as the various frame parts, are of steel. The hubs are of chilled steel and there is a clutch in each.

With each machine we send two feed wheels, P145 to spread 500 to 3000 lbs. per acre, and P145A for spreading lesser amounts. Six, eight and eleven point chain wheels are furnished for varying the amounts of fertilizer to be sown per acre.

The hopper is round, made of galvanized steel, holds about 200 lbs. of fertilizer and has the well-known IRON AGE Force Feed as shown in Fig. 530. A winged scraper, placed on top of the fertilizer, drops by its own weight as the material feeds from under it. The shaft with its steel cross pins revolves the scraper and keeps an open space in the centre. The fertilizer falls on a revolving disc, a feed wheel is forced around to the gate opening, and carries the fertilizer into a spout and down the spreader.

A gate regulates the amount to be sown and saves waste when turning at ends of rows.

No. 170 Fertilizer Distributor

This form of the IRON AGE One-Horse Fertilizer Distributor has, in addition to the features mentioned above, a Stirring Tooth. This tooth, located in the rear, mixes the fertilizer thoroughly with the soil. A lever with pin adjustment carries the tooth and locks it up out of the way when on the road. Particularly in these days, when concentrated commercial fertilizers are being used, it is highly important the fertilizers should be thoroughly mixed with the soil for best growth of plants—then there can be no injury to seed or plants and all the plant food contained in the fertilizers is made available.

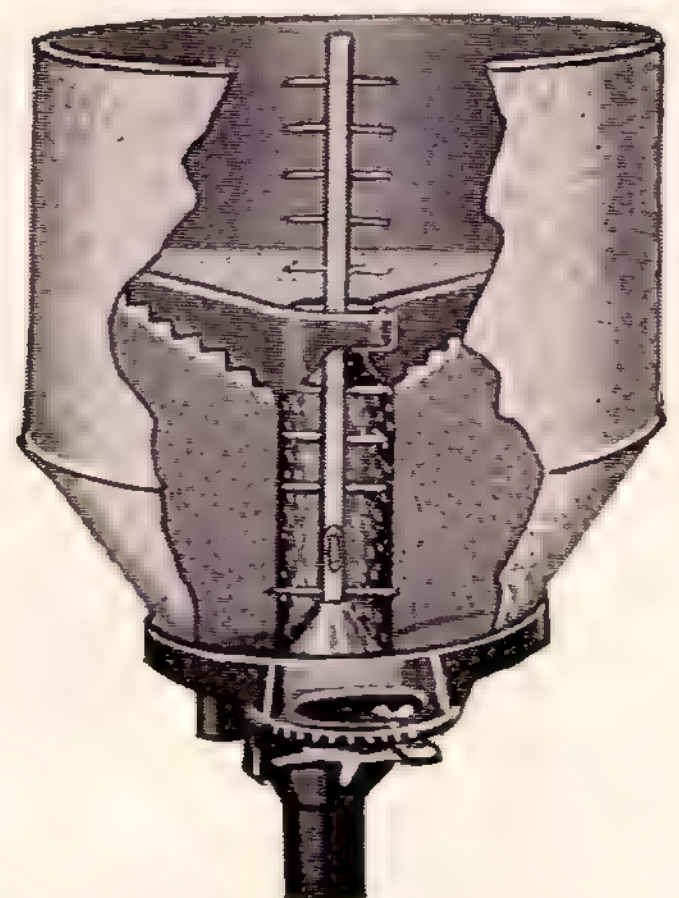
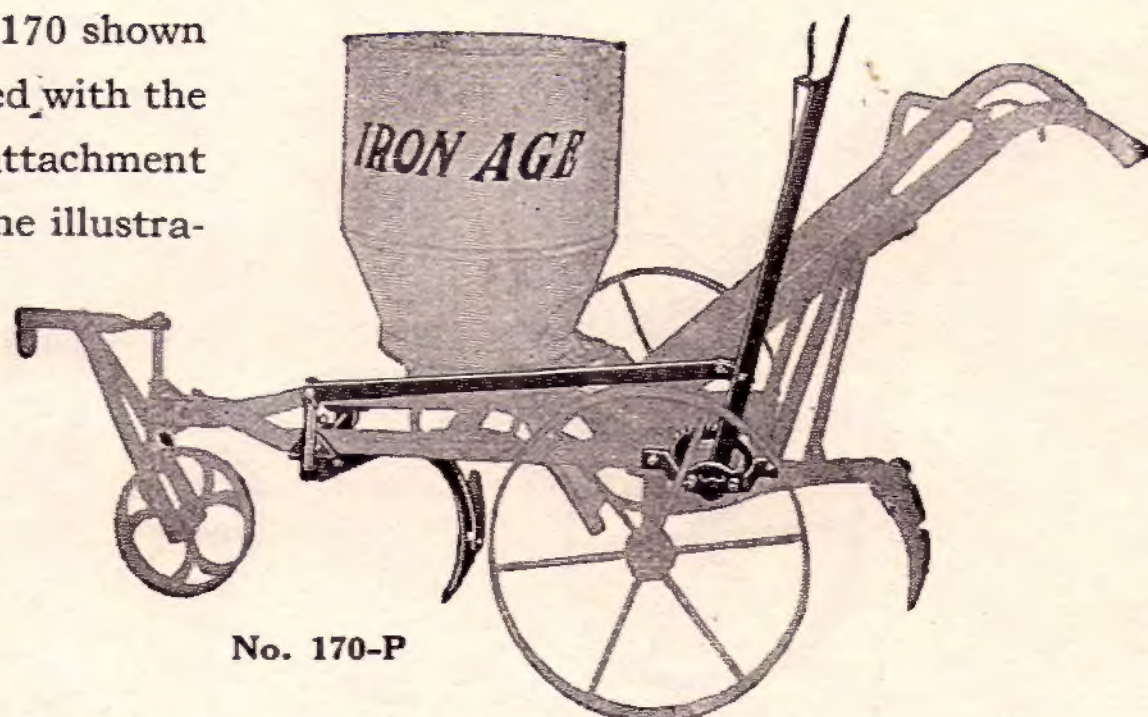


Fig. 530
Sectional View of Fertilizer Hopper

No. 170P Fertilizer Distributor with Plow Attachment

The No. 170P is similar to the No. 170 shown on preceding page except that it is fitted with the plow attachment, Fig. 513. This attachment consists of the black parts shown in the illustration of the No. 170P, and its addition enables the machine to open its own furrow in addition to distributing the fertilizer. The plow is adjustable by means of a lever for depth. This feature adds greatly to the usefulness of the tool, as it saves in many cases the necessity of a separate operation of opening the furrow



No. 170-P

Fig. 513, Showing Plow Attachment

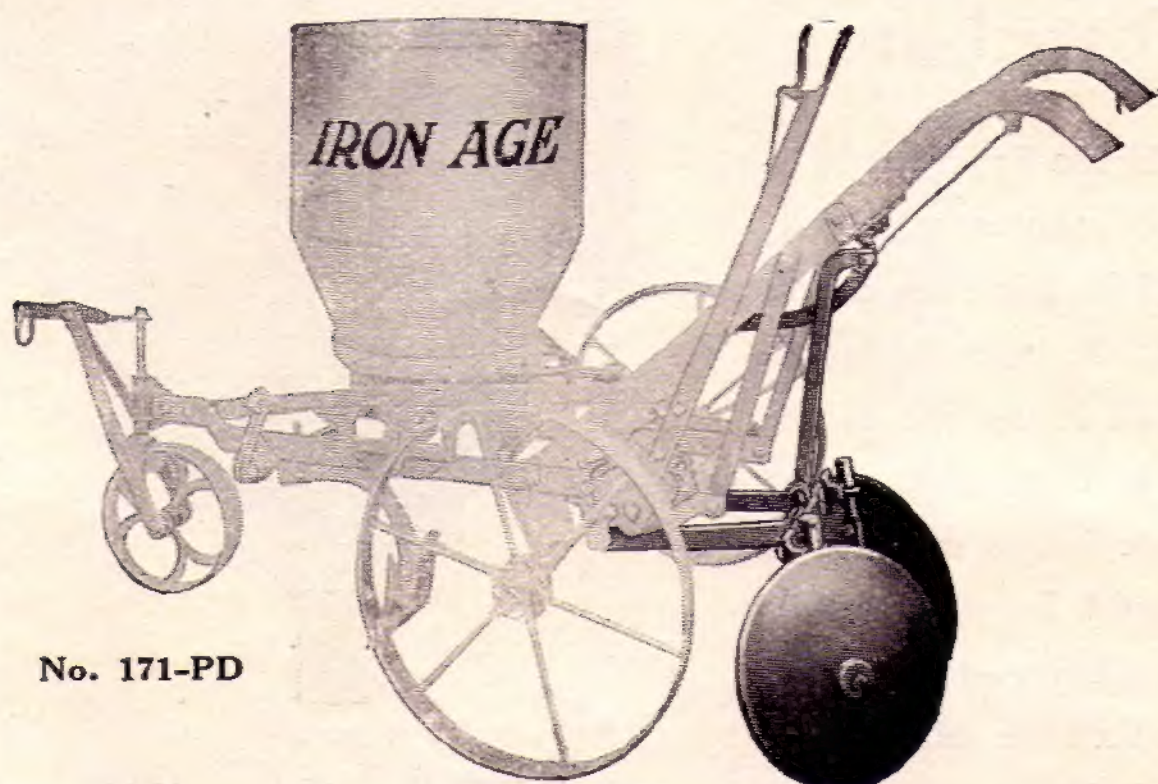
No. 170PD Fertilizer Distributor

This form, not shown here, but easily understood from the illustrations of the No. 170P and the No. 171PD, is similar in all respects to the No. 170P except that it has, in addition to the stirring tooth and the plow, the discs shown on the No. 171PD.

No. 171PD Fertilizer Distributor

In the illustration of the No. 171PD are shown in black the parts necessary to make No. 170P into No. 171PD; that is, the discs and connecting parts. This form of the machine not only opens up its own furrow and distributes the fertilizer, but covers it with 12-inch discs. These discs can be adjusted for angle to regulate amount of soil thrown to the ridge. An eccentric lever, attached to the handles, raises the discs from the ground when turning or when on the road. **No Stirring Tooth is furnished with this outfit.** If Stirring Tooth is wanted, No. 170PD should be ordered. Both plow and discs can be obtained separately and applied to the No. 170.

From the foregoing it will be seen that the IRON AGE One-Row, One-Horse Fertilizer Distributor is supplied in two forms, **with Stirring Tooth** and **without**. With the Stirring Tooth it is known as the No. 170, and without the Stirring Tooth as No. 171. This Stirring Tooth is shown in the illustration of the No. 170 as being in the extreme rear, below the handles.



No. 171-PD

To these two forms a plow may be added, indicated by the letter "P," and also Discs, indicated by the letter "D," as follows:

No. 170. One-Row, One-Horse Distributor with Stirring Tooth.

No. 170P. One-Row, One-Horse Distributor with Stirring Tooth and Plow.

No. 170PD. One-Row, One-Horse Distributor with Stirring Tooth and Plow and Discs.

No. 171PD. One-Row, One-Horse Distributor **without** Stirring Tooth but with Plow and Discs.

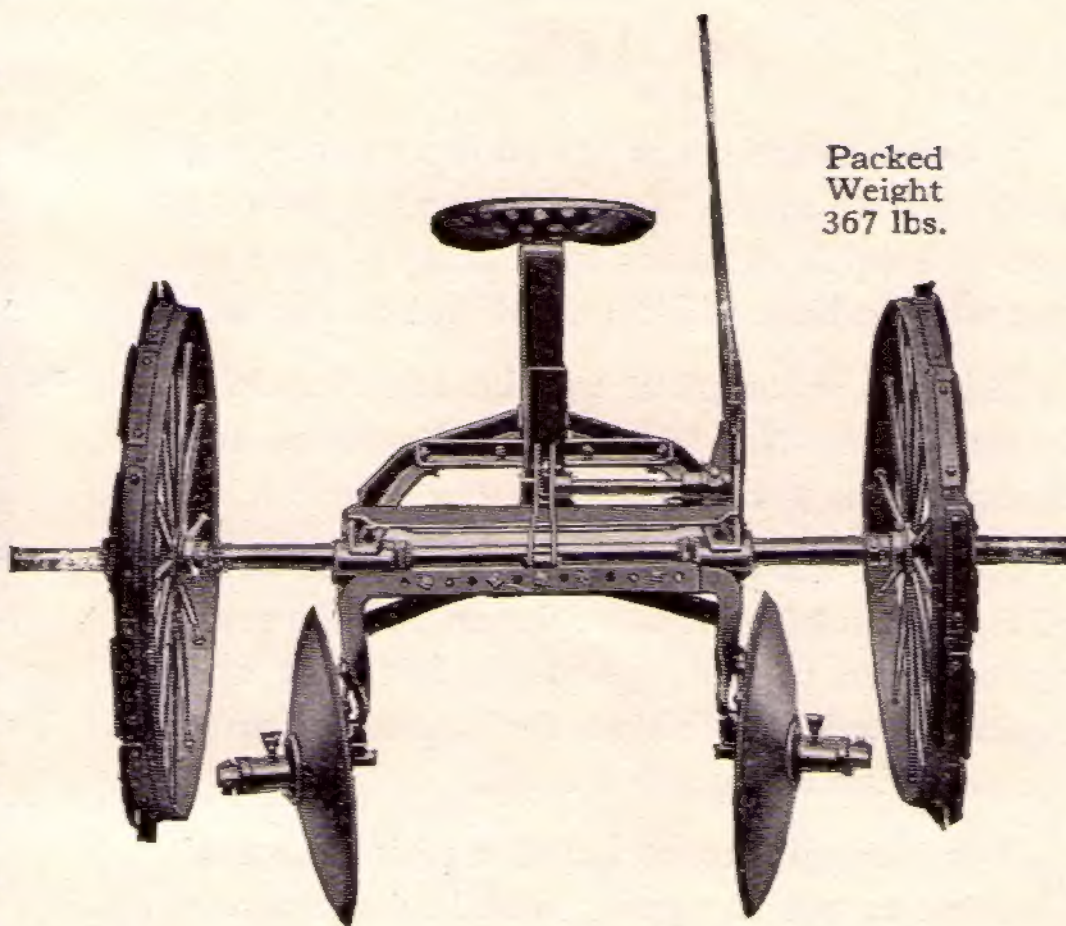
IRON AGE Ridgers

For Asparagus, Celery, etc.,
also making up seed beds

No. 142

Asparagus growers, like those who specialize in other crops, in order to grow asparagus profitably need special machinery to do their work. While the ordinary walking plow still has its place for working all kinds of crops, yet it is too slow for the performance of many operations, and the farmers who continue to use it soon find they cannot compete with their neighbors who use specially designed machinery, performing in many cases the work to be done in one-half or one-quarter of the time and do it better.

Ridging of asparagus after each cutting is important because repeated cutting and rains wear the ridges down and allow the weeds to get thick and heavy. By this ridging, loose soil is thrown up on the beds by large discs which are adjustable for angle, width and height of the ridge, and this soil serves to support and protect the lower part of the stalks so they will not be broken in the cutting season. The wheels are 38 inches high and can be adjusted each side of the axle to make them track from 44 inches up to 72 inches. The discs are 24 inches in diameter and can be set to make a ridge as narrow as 16 inches



Packed
Weight
367 lbs.

wide at the bottom and 6 inches at the top, up to 36 inches at the bottom and 24 inches at the top. The axle is $1\frac{5}{8}$ inches in diameter.

The side frames are made of heavy steel angles well braced and tied together by cross angles.

The tongue is the only part made of wood and this is of good size and made of best long leaf yellow pine.

The gangs to which the discs are attached are made of heavy steel bars well braced, and are equipped with tie rods on each side adjustable by turn-buckles.

The wheels, which are good and strong, have a flange riveted on the tire to cause the machine to run steadily. A leveler attachment as shown on next page may be added to this tool any time in the future, and when wanted is indicated by adding the letter "L" to the number, thus No. 142-L.

The annexed photograph shows the practical application of the Ridger in ridging asparagus. In a similar manner it will make up ridges in which to set plants or plant melons, pumpkins, squash, etc. This form of the tool is used by the growers of asparagus who grow green "grass." The cut shown on the next page shows the machine equipped with the leveler, which form of the tool is used by growers of the white "grass."

IRON AGE Ridgers (Continued)

No. 142L

In certain sections of the country asparagus growers cut white "grass," and such farmers not only wish to make up a large high ridge but wish to have it levelled off flat on the top.

This we accomplish by the addition of a leveler to our No. 142 Ridger illustrated and described on previous page.

The leveler is adjustable in depth and angle of blades and is raised at the end of the rows by pressure of the operator's left foot and again placed in position for operation after the machine is turned around.

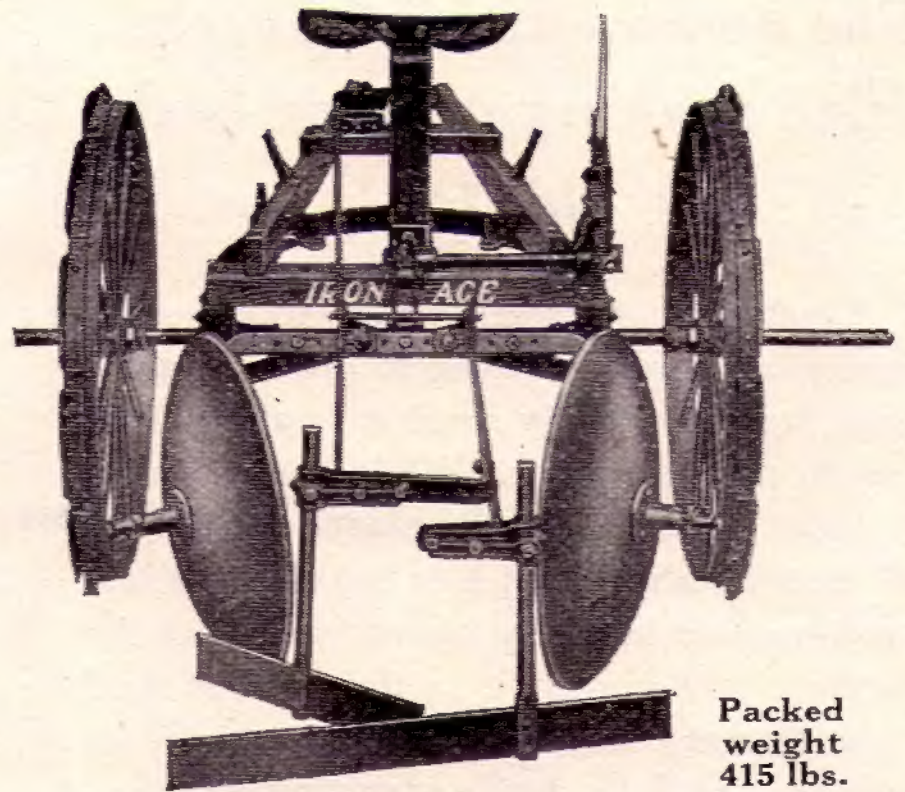
It is strongly constructed and it is a real pleasure to see the good work it performs.

Users of these machines are loud in their praises and many growers frankly state they could not possibly get along without them. They are therefore all "boosters" for the IRON AGE Ridgers.

If we wished to do so we could give you numerous testimonials, but space here will not permit. This IRON AGE tool, like all the rest, was designed in the field, not in the shop.

With the leveler applied many farmers use the ridger, or "bedder," as some call it, for planting seeds and setting plants.

The photograph below gives a good idea how the leveler works. The picture was taken



on one of the best farms in Monmouth County, New Jersey, where the growing of asparagus is one of the most important crops. They, therefore, make a thorough study of the use of the best and most economical implements. No other implement could possibly work so nicely, as can readily be seen by the photograph.

The large discs are adjustable for angle width and height and the levelers may be set in proper position to level the ridge as high or low as desired.

For those who desire to draw their IRON AGE Ridgers with a tractor instead of horses we are prepared to supply same with a Tractor Hitch as shown in Fig. 611, page 30.



